S
628.53
H2a
Supp.
1982

PLEASE RETURN

VOLUME II

A SUPPLEMENTARY REPORT

1982 Data Analysis

STATE DOCUMENTS COLLECTION
SEP 22 1983
MONTANA STATE LIBRARY
1515 E. 6th AVE.
HELENA, MONTANA 59620

Air Quality Bureau
Environmental Sciences Division
Department of Health
and Environmental Sciences
Helena, Montana 59620

September, 1983

MONTANA STATE LIBRARY
3 0864 0009 9284 5

VOLUME II

A SUPPLEMENTARY REPORT

1982 Data Analysis

T 2 6 1983

Section A — Total Suspended Particulates ug/m^3 Annual - 1982

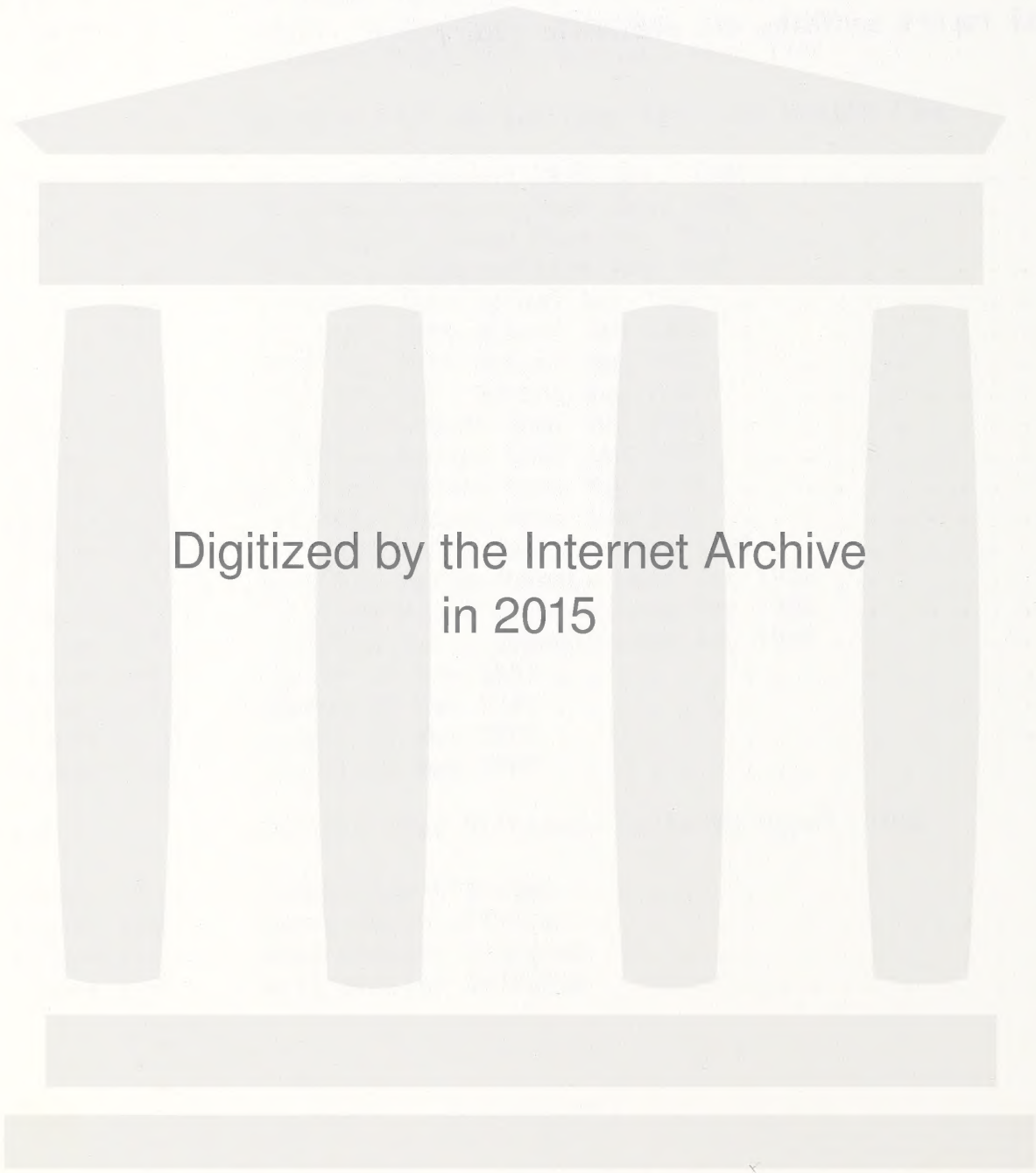
		Page
Figure A-1	Havre, City Center	1
A-2	Scobey, Border #1	2
A-3	Anaconda, Lincoln School	3
A-4	Kalispell, Universal Athletic	4
A-5	Polebridge	5
A-6	Arlee Pow Wow #1	6
A-7	Evaro	7
A-8	Ronan, Ninepipes	8
A-9	Polson, MAL	9
A-10	Kalispell, Evergreen	10
A-11	Kalispell, Airport	11
A-12	Whitefish	12
A-13	Big Fork	13
A-14	Columbia Falls, NAAC	14
A-15	Columbia Falls, Anders	15
A-16	St. Ignatius	16
A-17	Ronan, SK Tribe	17
A-18	Swan River	18
A-19	Polson MAL	19
A-20	Ovando	20
A-21	Miles City PCA	21
A-22	Libby, Brown	22
A-23	Laurel-Laurel	23
A-24	Helena - Capital Courts	24
A-25	Missoula - Courthouse Roof	25
A-26	Missoula-Rose Park	26
A-27	Billings-Lockwood School	27
A-28	Billings-KGHl	28
A-29	Billings-City Hall	29
A-30	Billings-Grand Avenue School	30
A-31	Billings-Taft School	31
A-32	Bozeman-East Main	32
A-33	Bozeman-Whittier School	33
A-34	Butte-Greeley School	34
A-35	Butte-Hebgen Park	35
A-36	Butte-Dr. Canty Office	36
A-37	West Glacier	37
A-38	Great Falls Fire Station #1	38
A-39	Great Falls Downtown	39
A-40	Great Falls Black Eagle	40

Section B — Three Year Plots vs. TSP ug/m^3 1980/83

Figure B-1	Libby-Brown	41
B-2	Billings-City Hall	42
B-3	Butte-Greeley School	43
B-4	Coumbia Falls-Anders	44
B-5	Great Falls Downtown	45
B-6	Kalispell UA	46
B-7	Missoula-Courthouse Roof	47

		Page
Section C	Yearly Plot vs. CO ppm	
Figure C-1	Missoula-Malfunction Junction Mon-Fri, Jan. 1982 . .	48
Figure C-2	Missoula Malfunction Junction Sat-Sun, Jan. 1982 . .	49
Figure C-3	Missoula-Malfunction Junction Mon-Sun, Jan. 1982 . .	50
Figure C-4	Billings Fairgrounds Mon-Fri. Jan. 1982	51
Figure C-5	Billings Fairgrounds Sat-Sun, Jan. 1982	52
Figure C-6	Billings Fairgrounds Mon-Sun, Jan. 1982	53
Figure C-7	Great falls Federal Mon-Sun, Dec. 1982	54
Figure C-8	Missoula Boyd Park Mon-Sun, Jan. 1982	55
Section D	Monthly Plot vs SO2 ppm/ Selected Months 1982	
Figure D-1	Billings Lockwood Park Nov. 1981	56
Figure D-2	Billings Lockwood Park Jan. 1982	57
Figure D-3	Billings Lockwood Park May 1982	58
Figure D-4	Billings Lockwood Park Aug 1982	59
Figure D-5	Billings Taft School Nov 1981	60
Figure D-6	Billings Taft School Jan 1982	61
Figure D-7	Billings Taft School May 1982	62
Figure D-8	Billings Taft School Aug 1982	63
Figure D-9	Billings Coburn Road Nov 1981	64
Figure D-10	Billings Coburn Road Jan 1982	65
Figure D-11	Billings Coburn Road May 1982	66
Figure D-12	Billings Coburn Road Aug 1982	67
Figure D-13	Billings North Johnson, Nov 1981	68
Figure D-14	Billings North Johnson Lane Jan 1982	69
Figure D-15	Billings North Johnson Lane May 1982	70
Figure D-16	Billings North Johnson Lane Aug 1982	71
Figure D-17	Laurel BN Nov 1981	72
Figure D-18	Laurel BN Jan 1982	73
Figure D-19	Laurel BN May 1982	74
Figure D-20	Laurel BN Aug 1982	75
Section E	Monthly Plot Nitrates, Sulfates ug/m^3 1982	
Figure E-1	Polebridge Nitrates	76
Figure E-2	Polebridge Sulfates	77
Figure E-3	West Glacier Nitrates	78
Figure E-4	West Glacier Sulfates	79

The Air Quality Bureau collects and analyzes great amounts of data each year. The data is checked for quality and then analyzed by several methods, including several plots. The data plots are reviewed for future reference, network review and trend analysis. This supplement to the 1982 annual report contains all available 1982 plots.



Digitized by the Internet Archive
in 2015

https://archive.org/details/montanaairquali1982mont_0

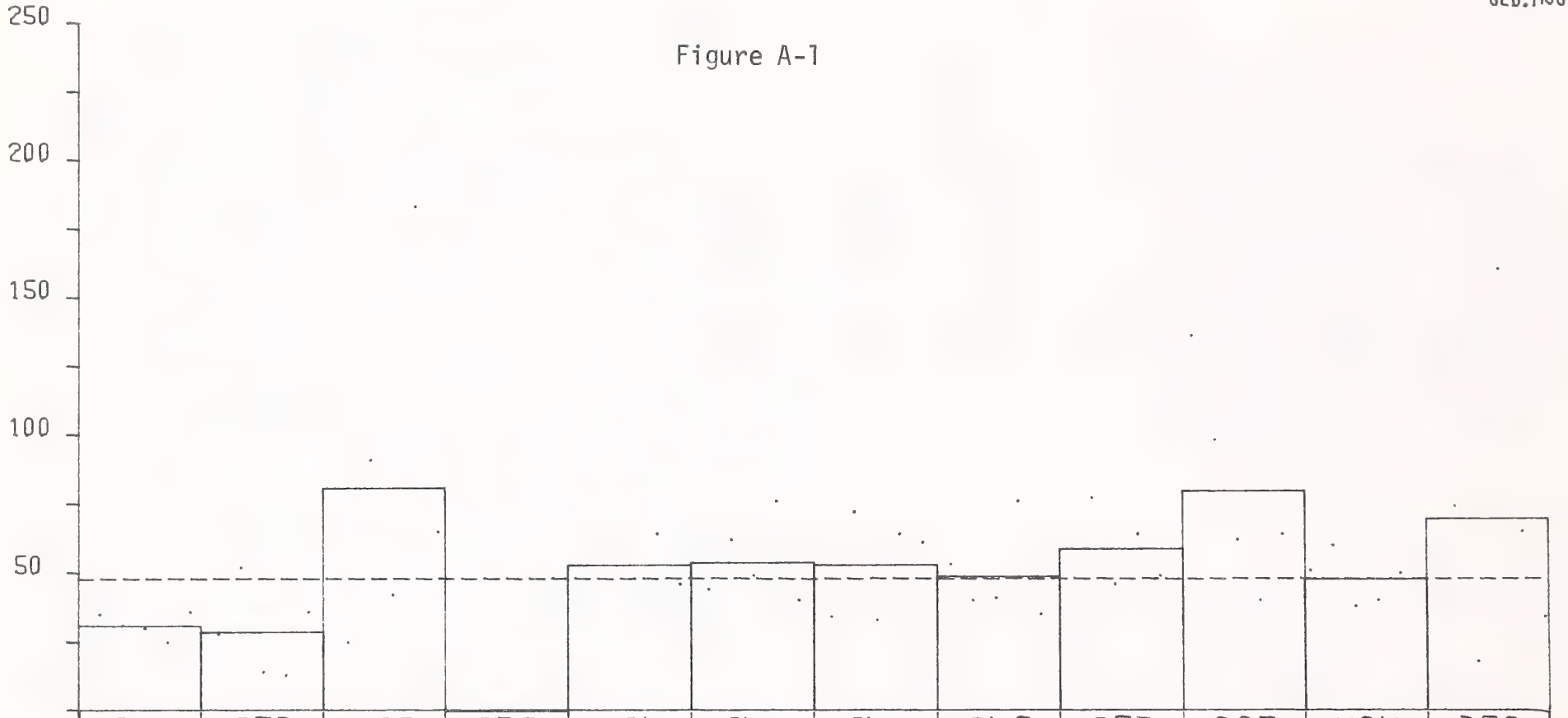
SECTION A

Total Suspended Particulates ug/m³ 1982

1982

GED.AVG = 48

Figure A-1



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	5	5	5		3	5	5	5	4	5	5	5
1-HIGH	36	52	183		64	76	72	76	77	136	60	160
2-HIGH	35	36	91		48	62	64	53	64	98	51	74
MD.AVG	31	29	81		53	54	53	49	59	80	48	70

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 0700, HILL CO

SITE. . . . . 001, CITY CENTER

CITY. . . . . HAVRE

MONTANA STATE AIR QUALITY BUREAU

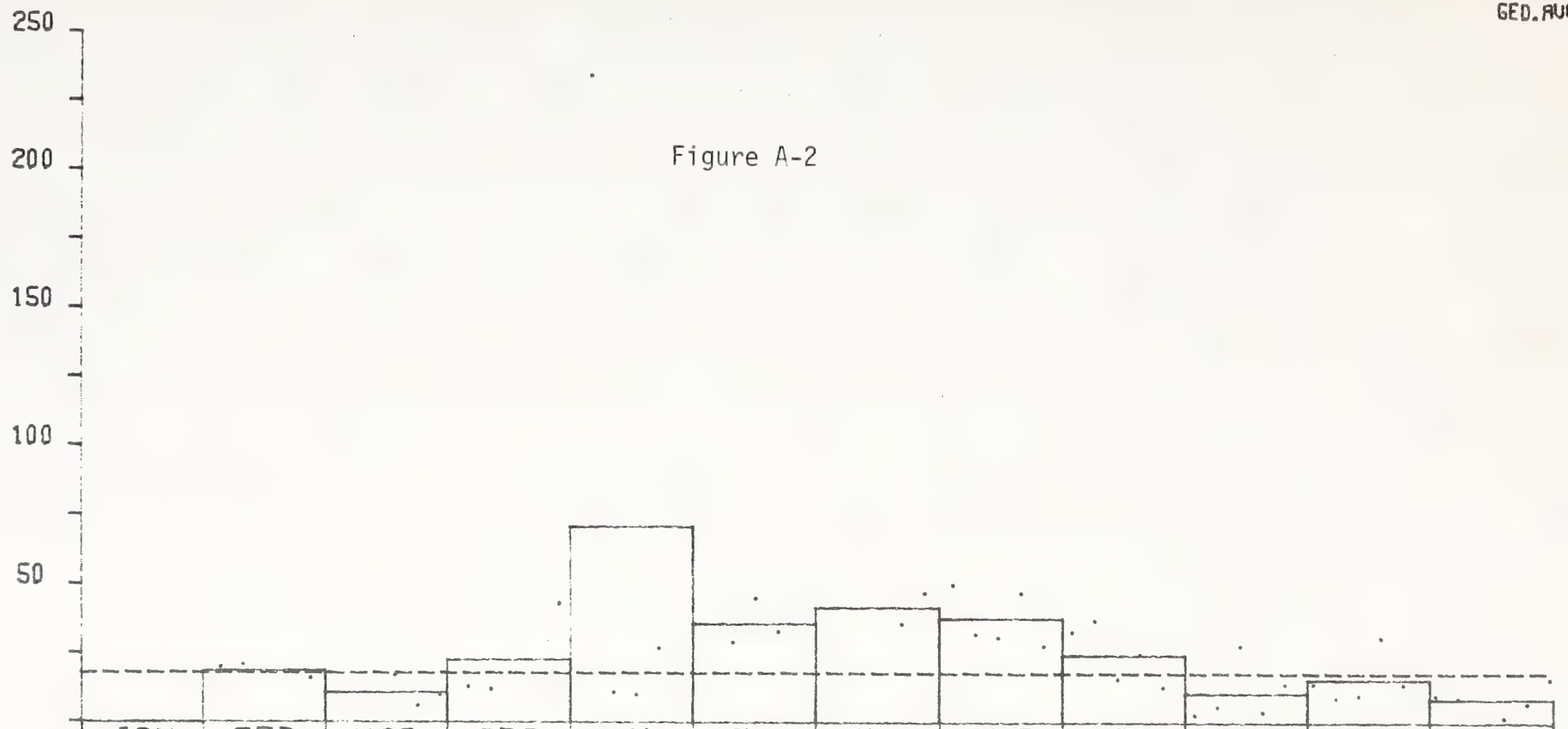
APRIL 1983

TECHNICAL SERVICES

1982

GED.AUG = 18

Figure A-2



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS		3	3	3	4	3	2	5	5	5	5	5
1-HIGH		21	17	43	234	45	47	50	37	28	31	16
2-HIGH		20	10	13	27	33	36	47	33	14	14	10
MO.AVG		19	11	23	71	36	42	38	25	11	16	9

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 0340, DANIELS CO

SITE. . . . . 001, BORDER #1

CITY. . . . . SCOBEY

MONTANA STATE AIR QUALITY BUREAU

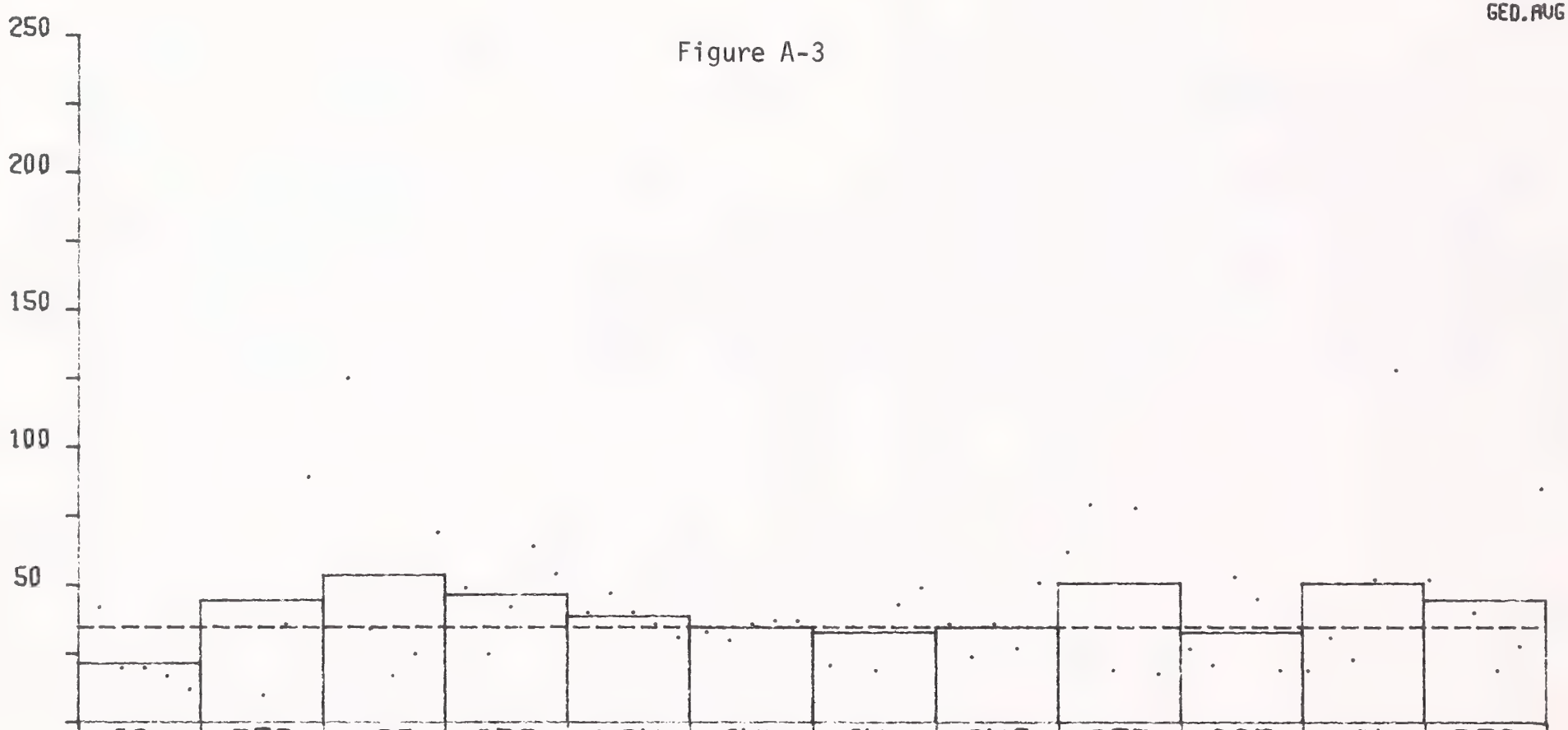
APRIL 1983

TECHNICAL SERVICES

1982

GED.AVG = 35

Figure A-3



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	5	3	5	5	5	5	5	5	5	5	5	5
1-HIGH	42	89	125	64	47	37	49	51	79	53	128	85
2-HIGH	20	36	69	54	40	37	43	36	78	45	52	52
MD.AVG	22	45	54	47	39	35	33	35	51	33	51	45

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 0020, DEER LODGE CO

SITE. . . . . 007, LINCOLN SCHOOL

CITY. . . . . ANACONDA

MONTANA STATE AIR QUALITY BUREAU

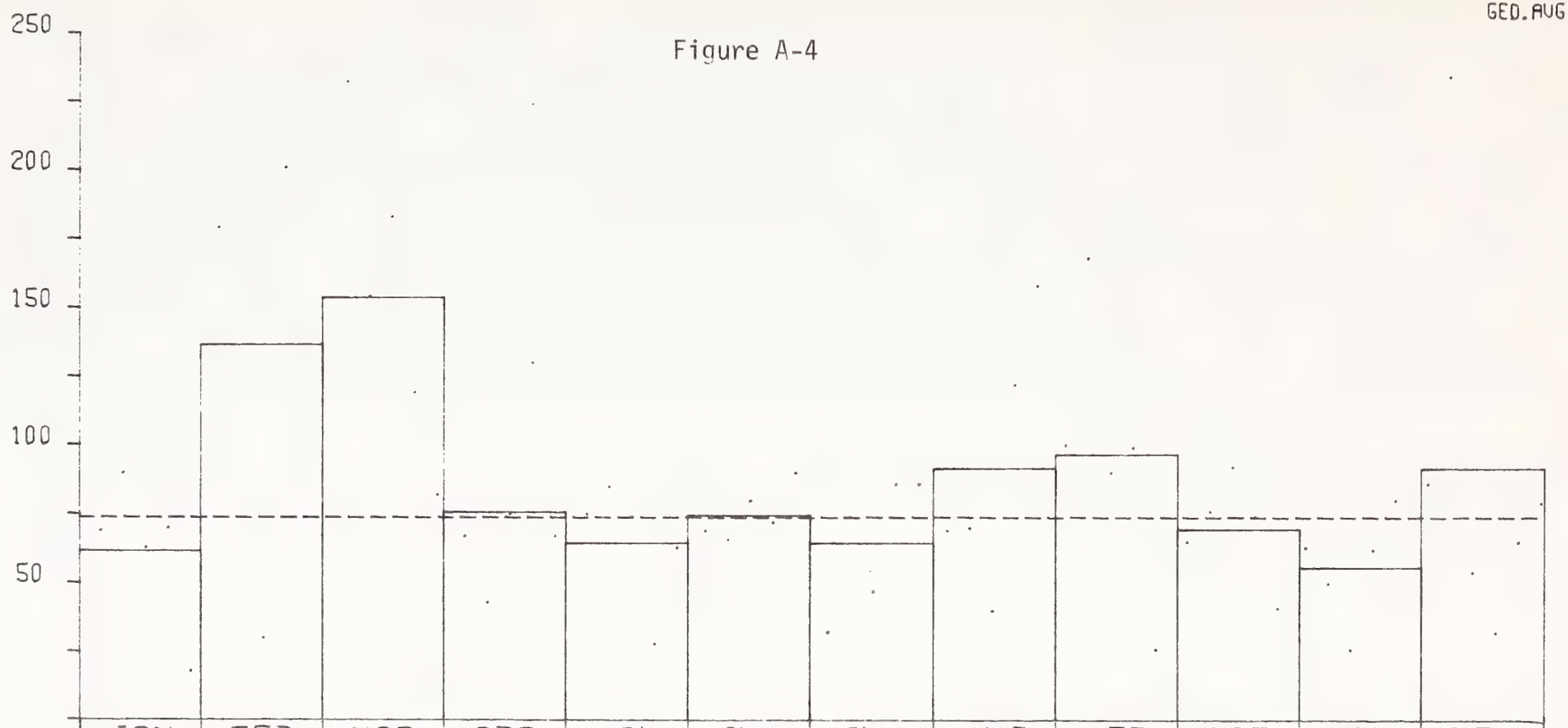
APRIL 1983

TECHNICAL SERVICES

1982

GED.AUG = 74

Figure A-4



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	5	3	5	5	5	5	5	5	5	5	5	6
1-HIGH	90	201	232	130	85	90	86	158	168	92	80	234
2-HIGH	70	179	183	75	75	80	86	122	100	76	63	86
MO.AUG	62	137	154	76	65	75	65	92	97	70	56	92

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 0800, FLATHEAD CO

SITE. . . . . 015, UNIVERSAL ATHLETIC

CITY. . . . . KALISPELL

MONTANA STATE AIR QUALITY BUREAU

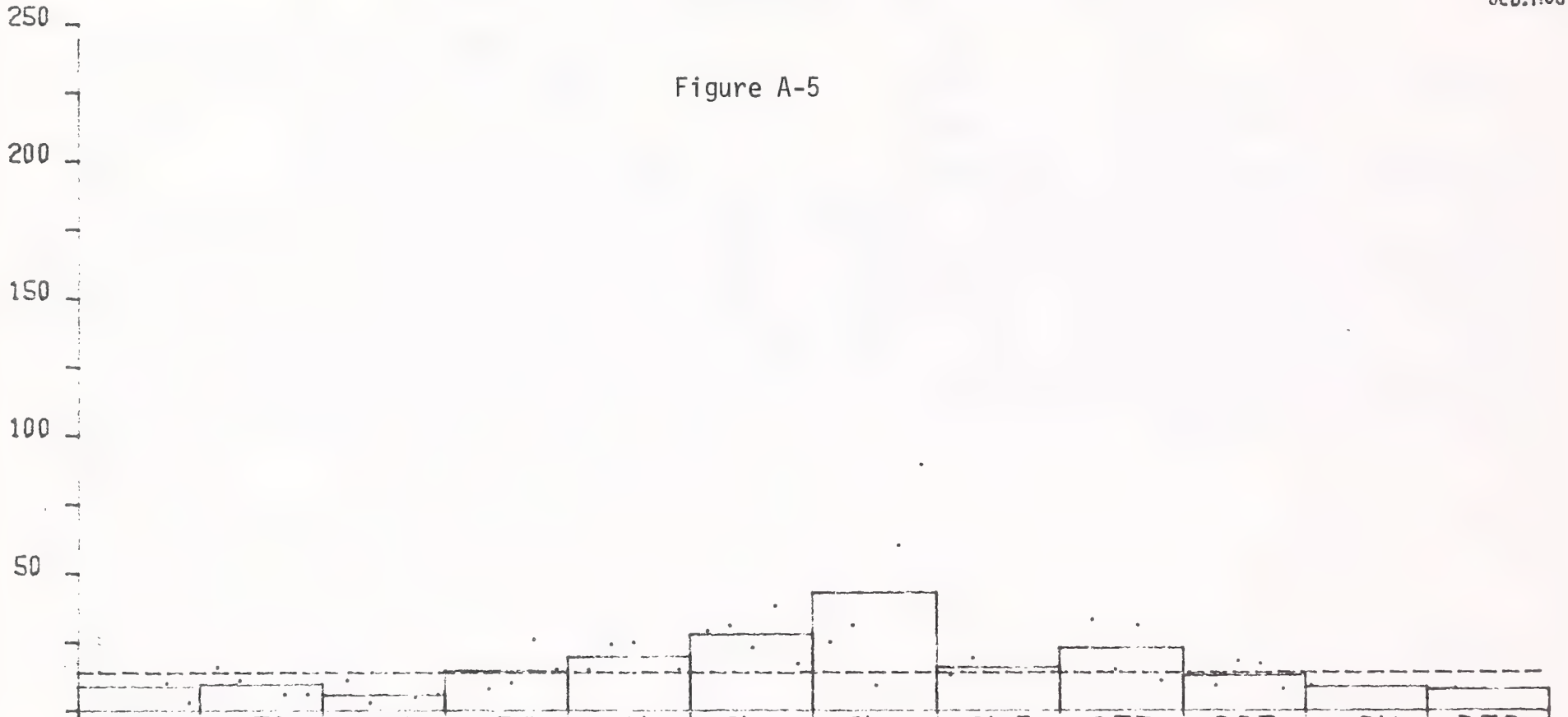
APRIL 1983

TECHNICAL SERVICES

1982

GED.AUG = 14

Figure A-5



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	3	4	4	4	4	5	5	2	4	4	1	1
1-HIGH	14	16	11	26	25	38	89	19	33	18	9	8
2-HIGH	10	11	6	15	24	31	60	13	31	17		
NO.AVG	9	10	6	15	20	28	43	16	23	13	9	8

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 0480, FLATHEAD CO

SITE. . . . . 035, POLEBRIDGE

CITY. . . . . POLEBRIDGE

MONTANA STATE AIR QUALITY BUREAU

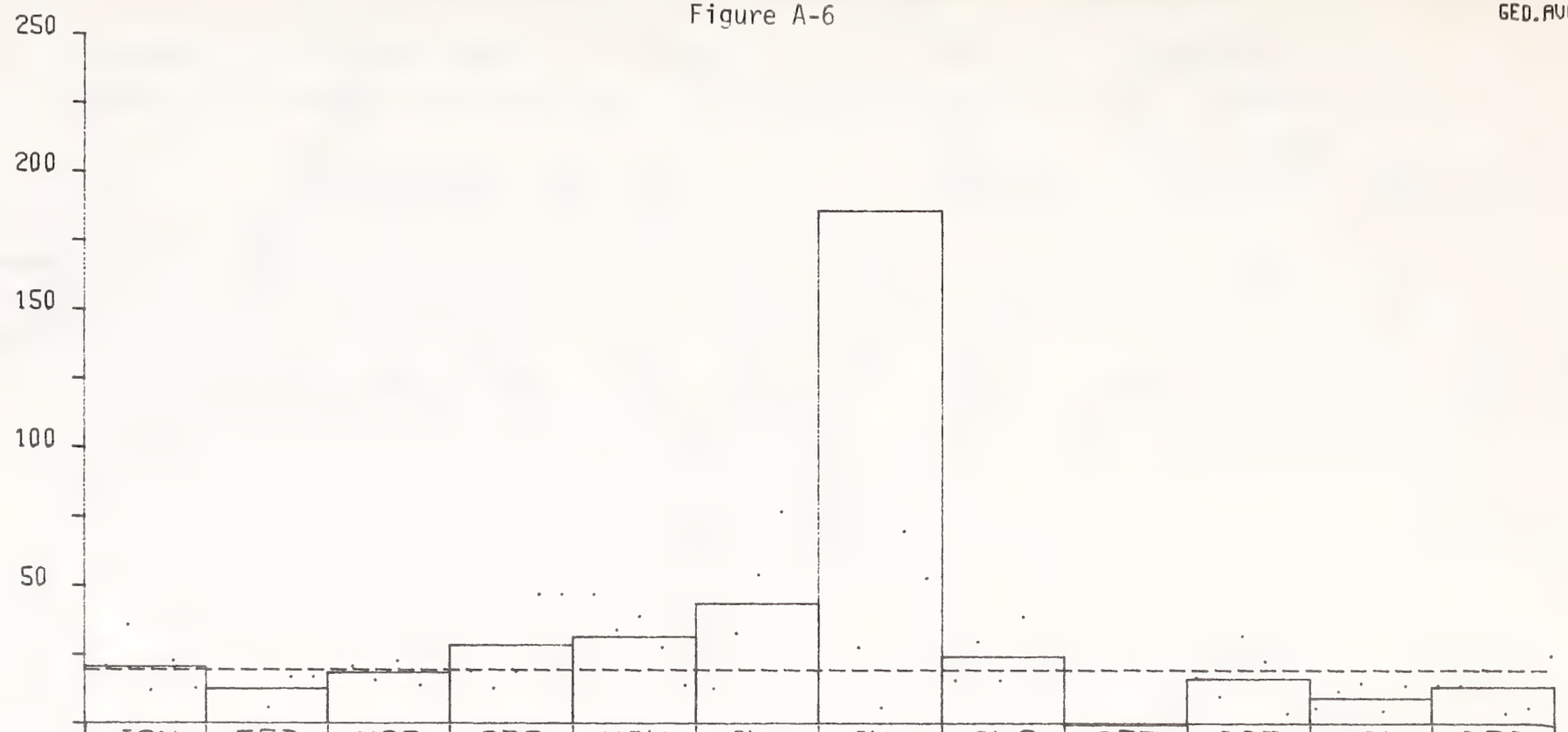
APRIL 1983

TECHNICAL SERVICES

1982

Figure A-6

GED.AVG = 20



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	5	3	4	5	5	4	5	4		5	5	6
1-HIGH	36	17	23	47	47	77	772	39		32	15	25
2-HIGH	23	17	21	47	39	54	70	30		23	14	20
MO.AVG	21	13	19	29	32	44	186	25		17	10	14

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 0820, LAKE CO

SITE. . . . . 018, S K TRIBE-POW WOW #1

CITY. . . . . ARLEE

MONTANA STATE AIR QUALITY BUREAU

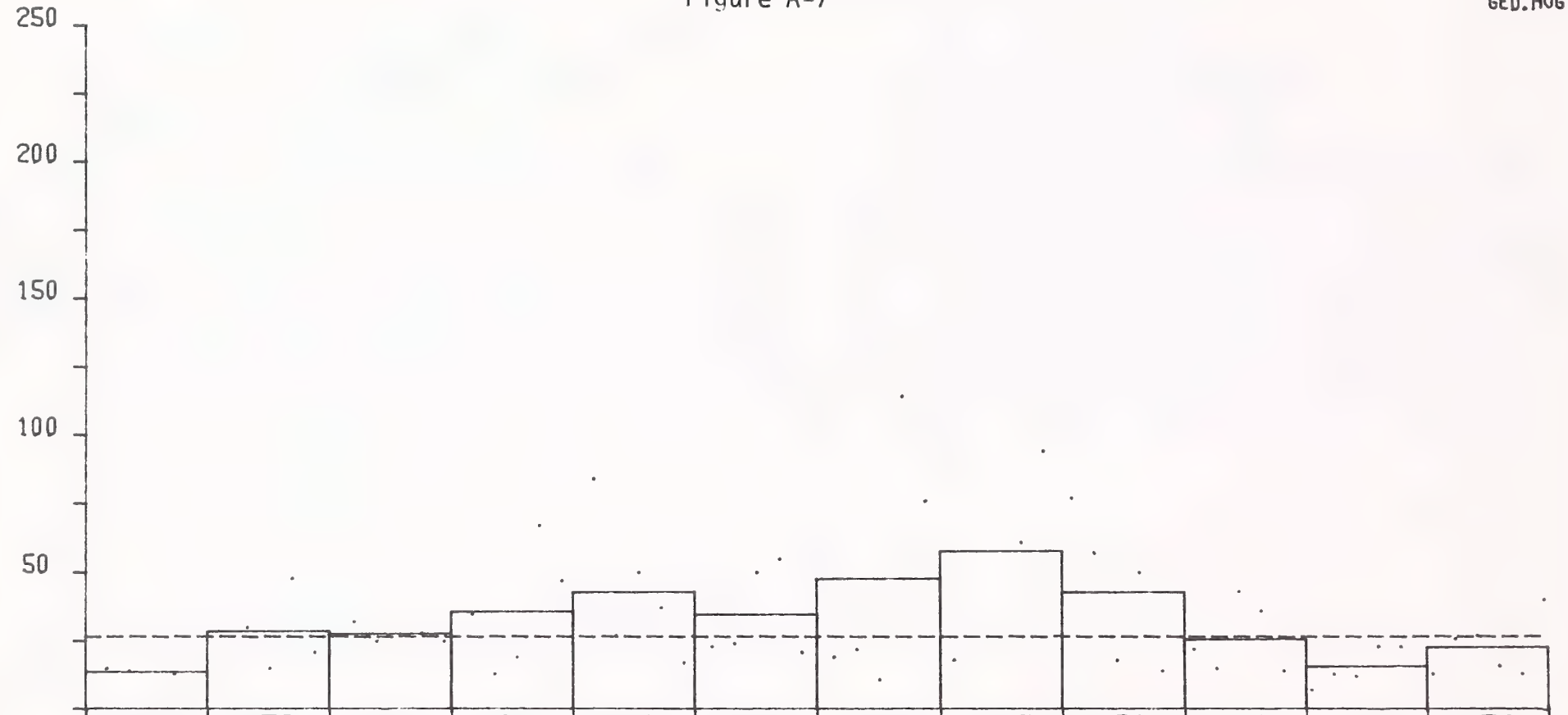
APRIL 1983

TECHNICAL SERVICES

1982

Figure A-7

GED.AUG = 27



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	3	4	4	5	5	5	5	3	5	5	5	6
1-HIGH	15	48	32	67	84	55	114	94	77	43	23	40
2-HIGH	14	30	28	47	50	50	76	61	57	36	23	27
NO.AUG	14	29	28	36	43	35	48	58	43	26	16	23

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 1100, MISSOULA CO

SITE. . . . . 028, S K TRIBE - EVARO

CITY. . . . . EVARO

MONTANA STATE AIR QUALITY BUREAU

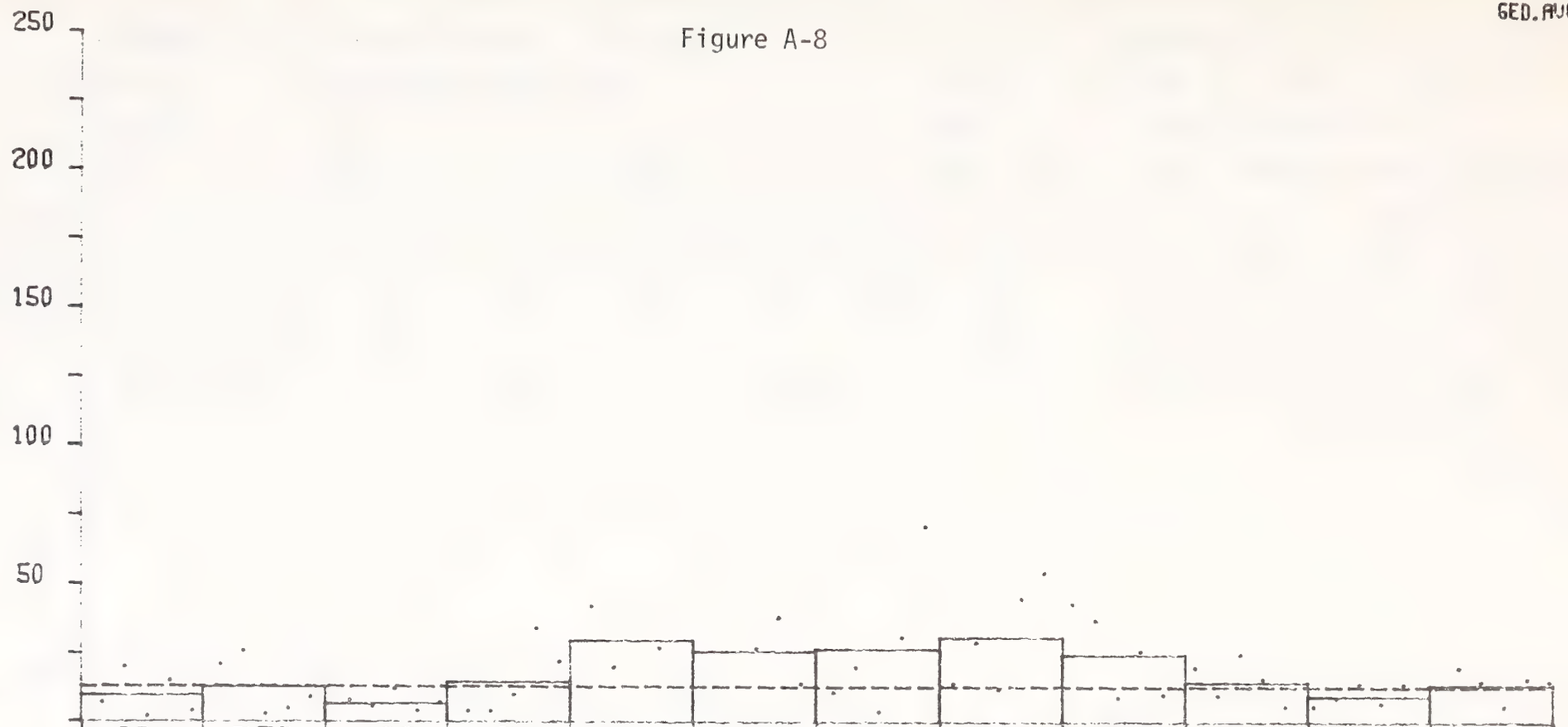
APRIL 1983

TECHNICAL SERVICES

1982

GED.AVG = 13

Figure A-8



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	5	5	5	5	3	3	5	5	5	5	5	6
1-HIGH	20	26	12	34	42	38	71	54	43	25	14	20
2-HIGH	15	21	8	22	27	27	31	45	37	20	14	16
MO.AVG	10	13	7	15	30	26	27	31	25	15	10	14

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 0820, LAKE CO

SITE. . . . . 012, NINEPIPE

CITY. . . . . RONAN

MONTANA STATE AIR QUALITY BUREAU

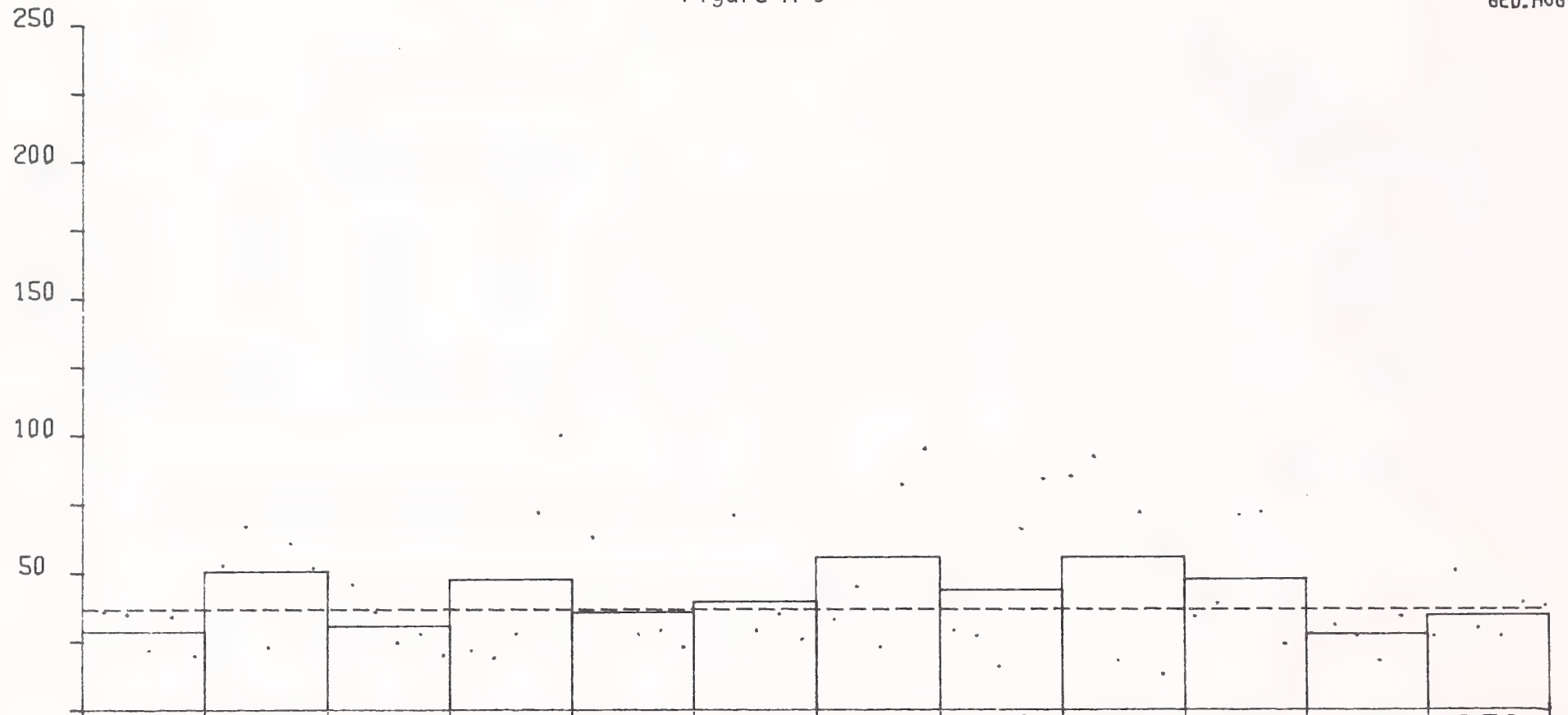
APRIL 1983

TECHNICAL SERVICES

Figure A-9

1982

GED.AUG = 37



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	5	5	5	5	4	4	5	5	5	5	5	6
1-HIGH	36	67	46	100	63	71	95	84	92	72	34	51
2-HIGH	35	61	36	72	29	35	82	66	85	71	31	39
MO.AVG	29	51	31	48	36	40	56	44	56	48	28	35

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 0820, LAKE CO

SITE. . . . . 010, POLSON (MAL)

CITY. . . . . POLSON

MONTANA STATE AIR QUALITY BUREAU

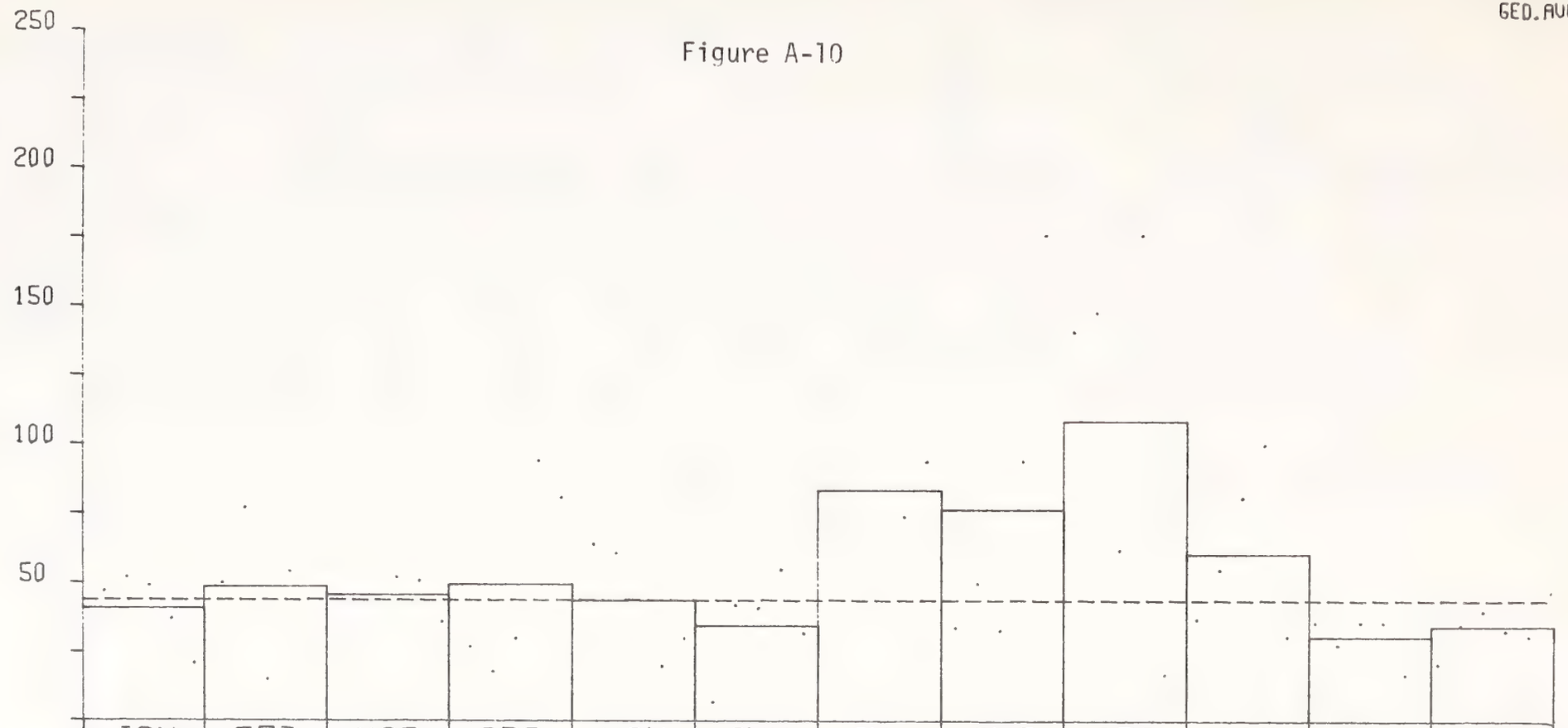
APRIL 1983

TECHNICAL SERVICES

1982

GED.AVG = 44

Figure A-10



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	5	4	3	5	4	5	2	5	5	5	5	6
1-HIGH	52	77	52	94	64	55	94	176	176	100	36	47
2-HIGH	49	54	51	81	61	42	74	94	148	81	36	40
MO.AVG	41	49	46	50	44	35	84	77	109	61	31	35

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 0800, FLATHEAD CO

SITE. . . . . 016, EVERGREEN

CITY. . . . . KALISPELL

MONTANA STATE AIR QUALITY BUREAU

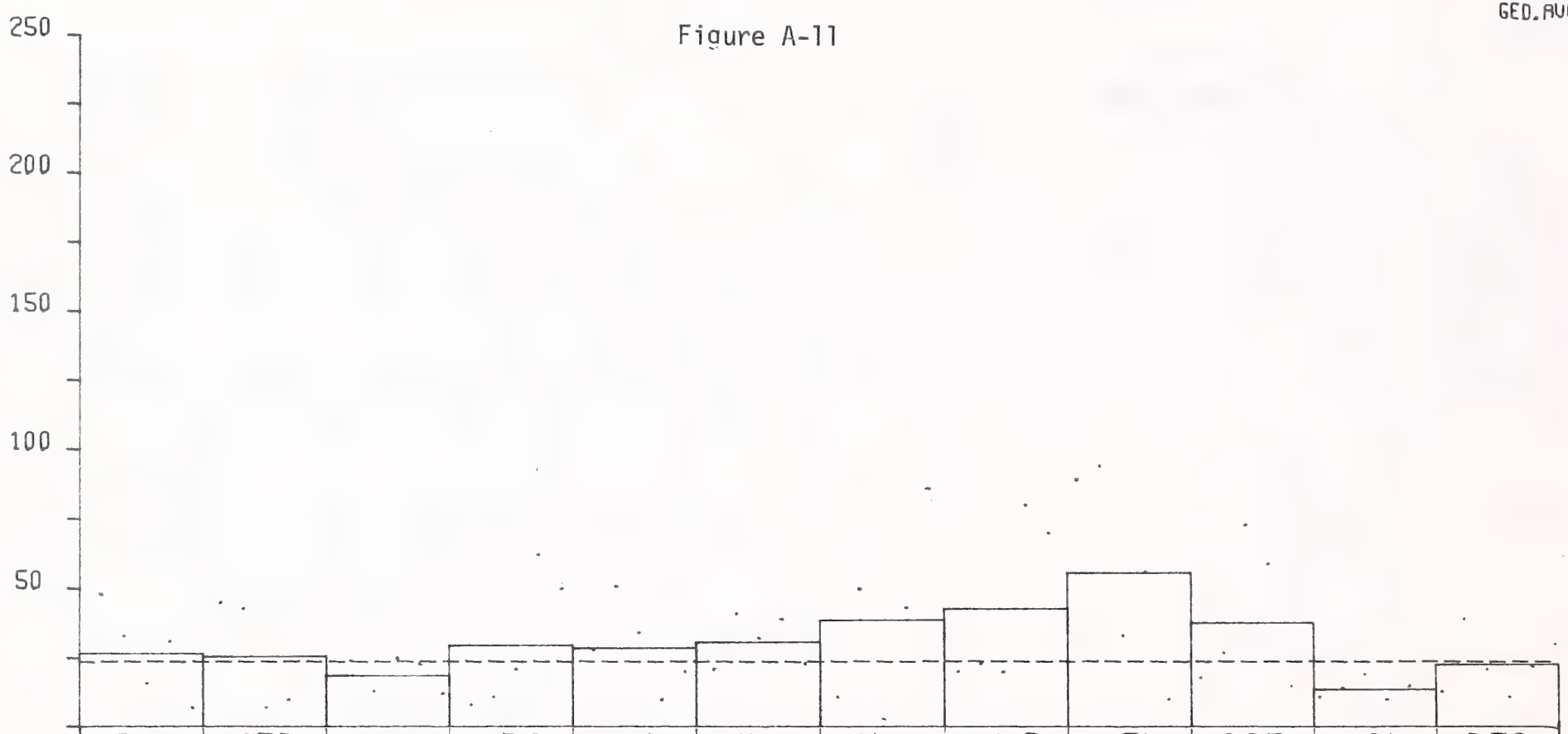
APRIL 1983

TECHNICAL SERVICES

1982

GED.AUG = 24

Figure A-11



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	5	4	5	5	5	5	5	5	5	5	5	6
1-HIGH	48	45	25	62	51	41	86	80	94	73	19	39
2-HIGH	33	43	24	50	34	39	50	70	89	59	15	30
MO.AUG	27	26	19	30	29	31	39	43	56	38	14	23

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 0480, FLATHEAD CO

SITE. . . . . 304, AIRPORT

CITY. . . . . KALISPELL

MONTANA STATE AIR QUALITY BUREAU

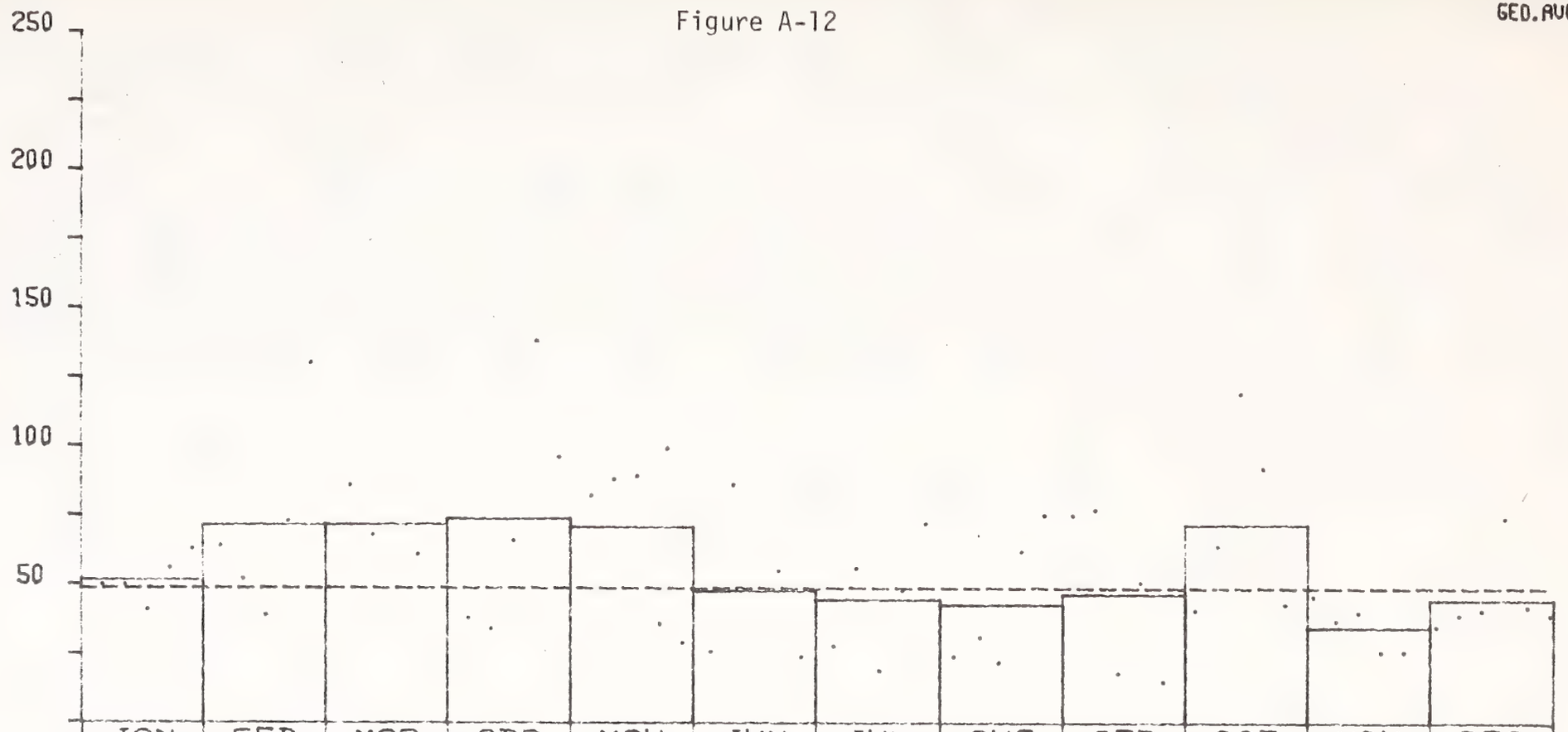
APRIL 1983

TECHNICAL SERVICES

1982

GEO.AVG = 49

Figure A-12



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	5	5	3	5	6	4	5	5	5	5	5	6
1-HIGH	63	130	86	138	99	86	72	75	77	119	46	74
2-HIGH	56	73	68	96	89	55	56	62	75	92	40	42
MD.AVG	52	72	72	74	71	48	45	43	47	72	35	45

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 0480, FLATHEAD CO

SITE. . . . . 037, WHITEFISH

CITY. . . . . WHITEFISH

MONTANA STATE AIR QUALITY BUREAU

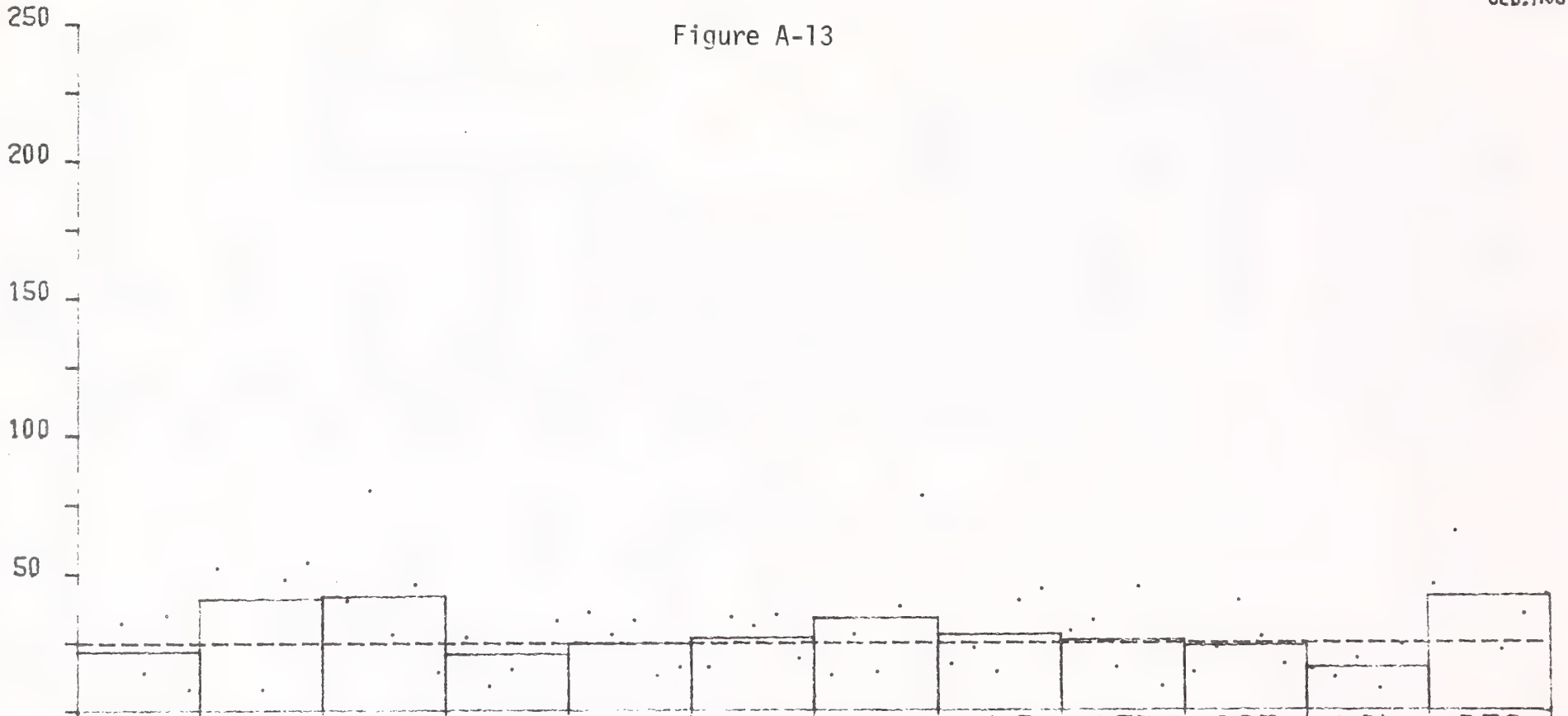
APRIL 1983

TECHNICAL SERVICES

1982

GED.AVG = 25

Figure A-13



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	4	4	5	4	5	5	5	5	5	5	5	5
1-HIGH	35	54	80	33	36	35	78	44	45	40	24	65
2-HIGH	32	52	46	27	33	34	38	40	33	27	19	46
NO.AVG	22	41	42	21	25	27	34	28	26	24	16	42

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 0480, FLATHEAD CO

SITE. . . . . 036, BIG FORK

CITY. . . . . BIG FORK

MONTANA STATE AIR QUALITY BUREAU

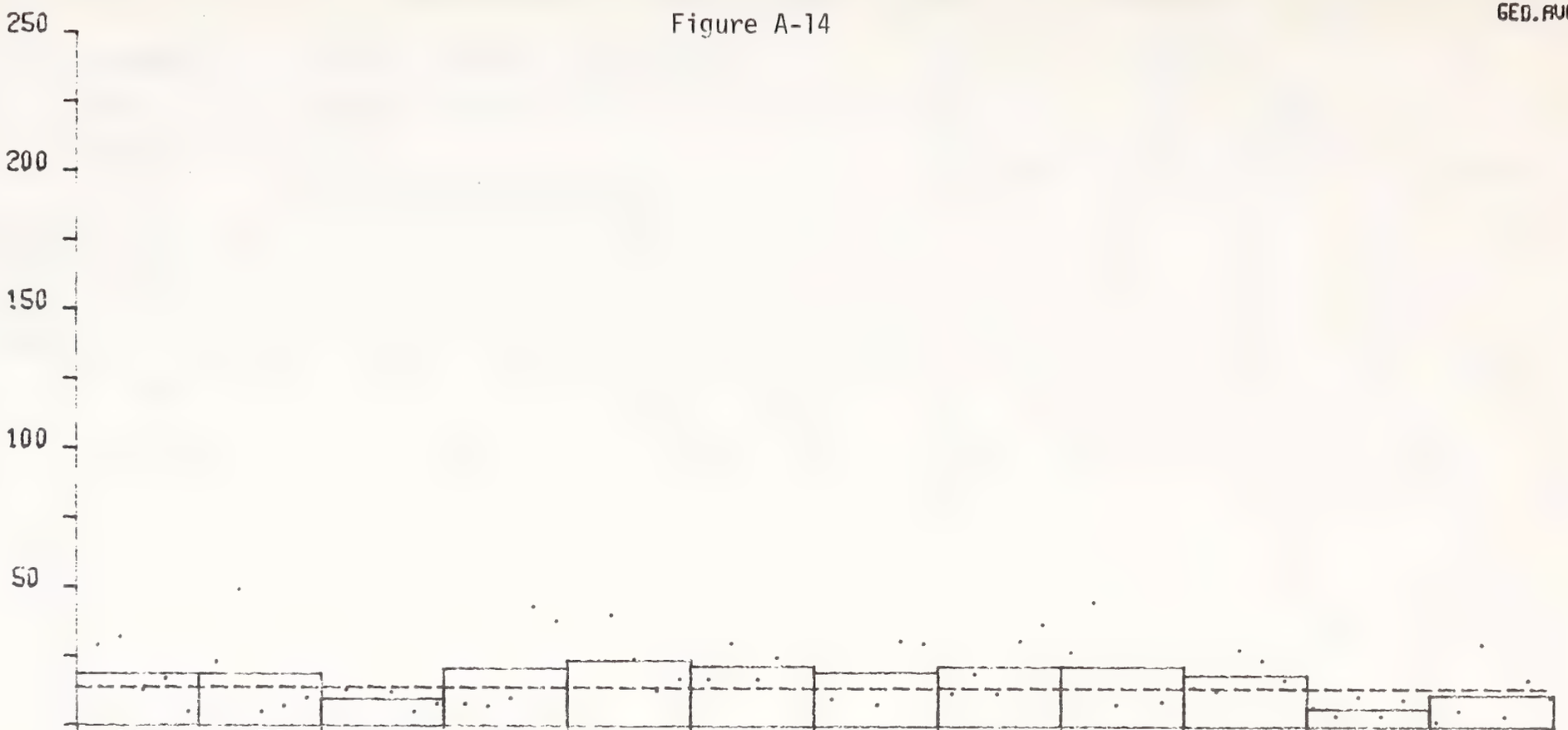
APRIL 1983

TECHNICAL SERVICES

1982

GEO.AVG = 14

Figure A-14



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	5	5	5	5	4	4	4	5	4	5	5	6
1-HIGH	32	49	14	43	40	30	31	37	45	28	11	30
2-HIGH	29	23	13	38	24	25	30	31	27	24	10	17
MO.AVG	19	19	10	21	24	22	20	22	22	19	7	12

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 0480, FLATHEAD CO

SITE. . . . . 029, NAAC TRAILER

CITY. . . . . COLUMBIA FALLS

MONTANA STATE AIR QUALITY BUREAU

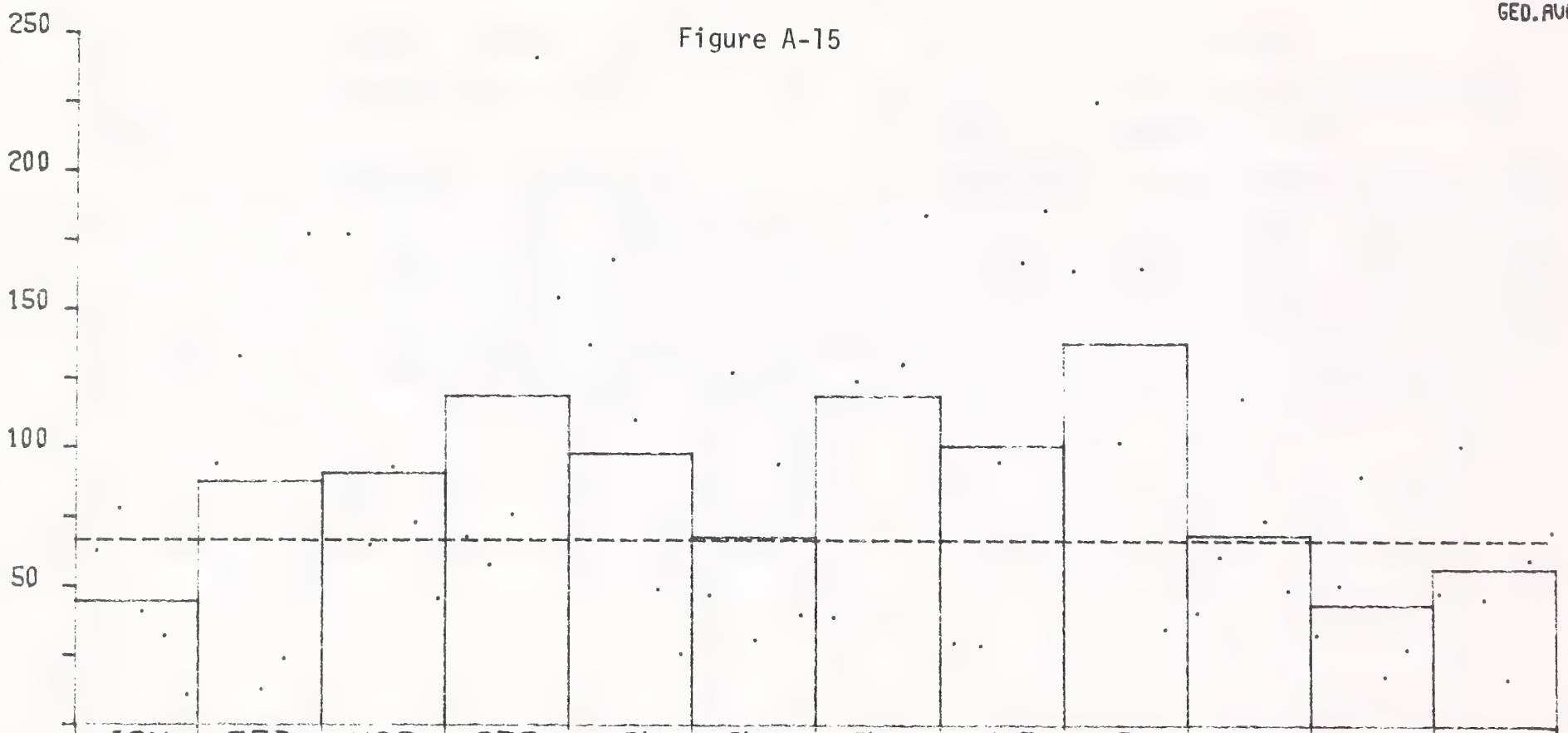
APRIL 1983

TECHNICAL SERVICES

1982

GEO.AVG = 67

Figure A-15



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	5	5	5	5	5	5	4	5	5	5	5	6
1-HIGH	78	177	177	241	168	127	184	186	225	118	90	101
2-HIGH	63	133	93	154	137	94	130	167	165	74	51	70
MO.AVG	45	88	91	119	98	68	119	101	138	69	44	57

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 0270, FLATHEAD CO

SITE. . . . . 005, ANDERS RESIDENCE

CITY. . . . . COLUMBIA FALLS

MONTANA STATE AIR QUALITY BUREAU

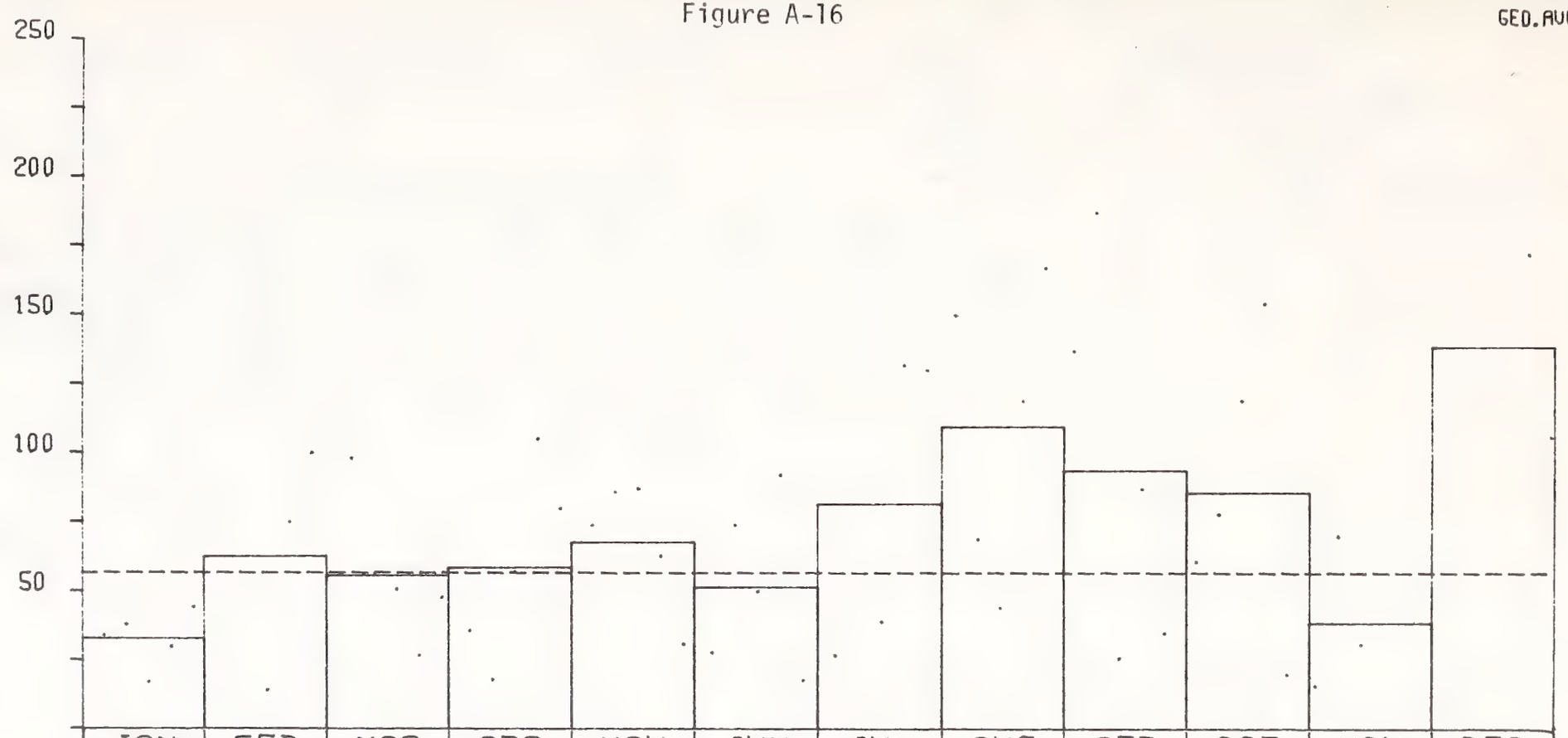
APRIL 1983

TECHNICAL SERVICES

1982

Figure A-16

GEO.AVG = 57



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	5	3	5	5	5	5	4	5	5	5	3	2
1-HIGH	44	100	98	105	87	92	132	167	187	154	70	172
2-HIGH	38	75	56	80	86	74	130	150	137	119	31	106
MO.AVG	33	63	56	59	68	52	82	110	94	86	39	139

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 0820, LAKE CO

SITE. . . . . 014, S K TRIBE ST IGNATIUS

CITY. . . . . ST IGNATIUS

MONTANA STATE AIR QUALITY BUREAU

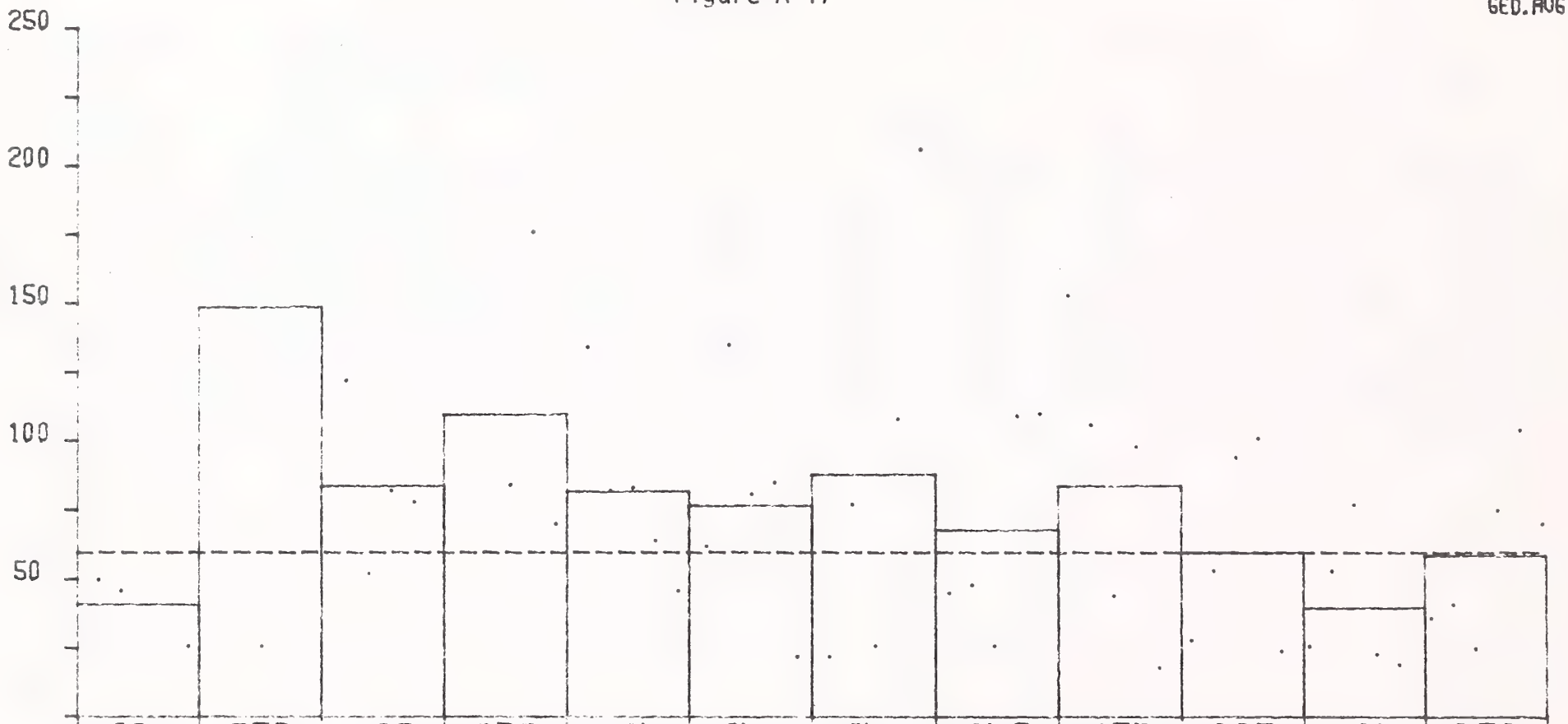
APRIL 1983

TECHNICAL SERVICES

Figure A-17

1982

GEO.AVG = 60



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	3	2	4	3	5	5	5	5	5	5	5	6
1-HIGH	50	272	122	176	134	135	206	110	153	101	77	104
2-HIGH	46	26	82	84	83	85	108	109	106	94	53	75
MO.AVG	41	149	84	110	82	77	88	68	84	60	40	59

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 0820, LAKE CO

SITE. . . . . 013, S K TRIBE RONAN

CITY. . . . . RONAN

MONTANA STATE AIR QUALITY BUREAU

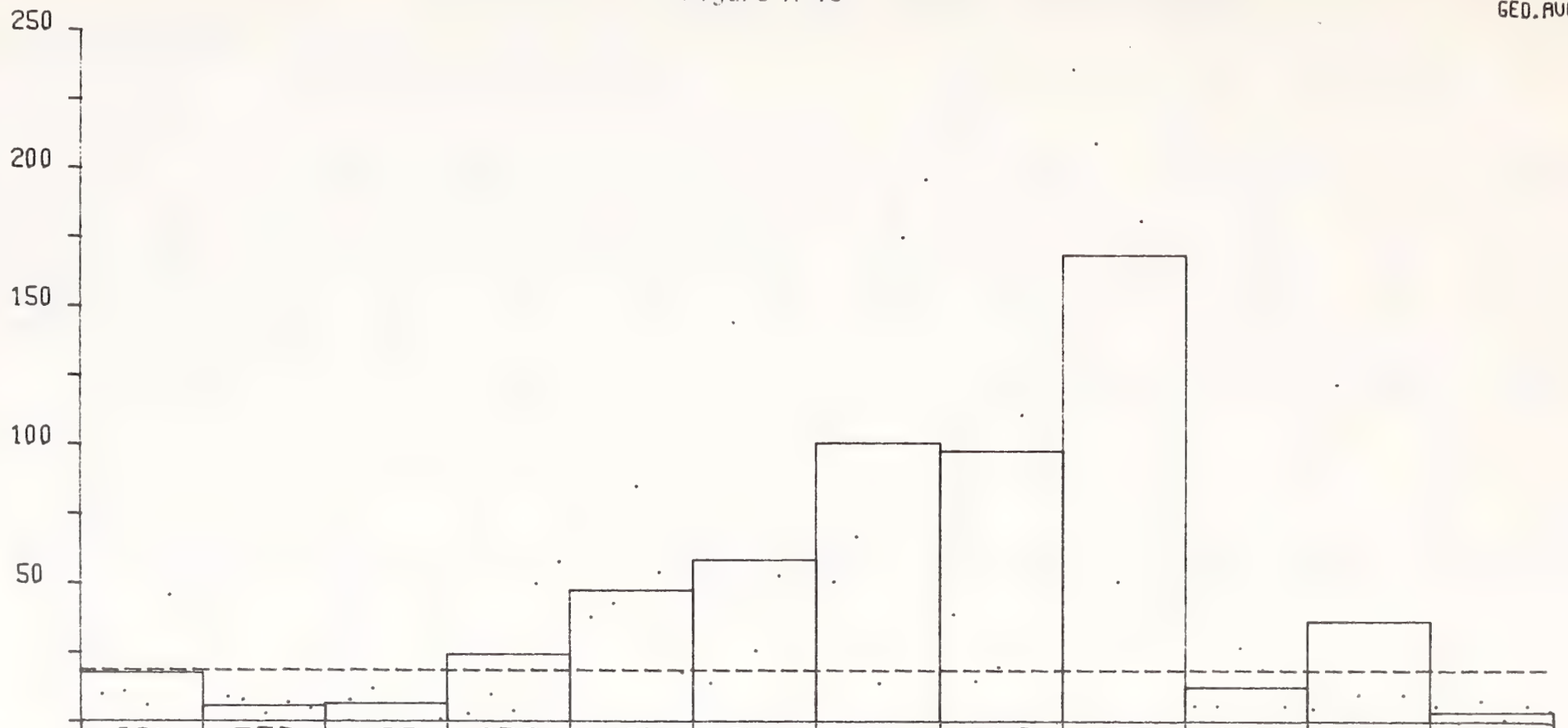
APRIL 1983

TECHNICAL SERVICES

Figure A-18

1982

GED.AVG = 19



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	4	5	3	5	5	4	5	5	4	5	4	6
1-HIGH	46	9	12	58	85	144	196	306	236	27	122	8
2-HIGH	11	8	8	50	54	53	175	111	209	19	10	6
MO.AVG	18	6	7	25	48	59	101	98	169	13	37	4

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 0820, LAKE CO

SITE. . . . . 017, SWAN RIVER YOUTH CAMP

CITY. . . . . SWAN RIVER

MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

Figure A-19

1982

GEO.AVG = 37

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	5	5	5	5	4	4	5	5	5	5	5	6
1-HIGH	36	67	46	100	63	71	95	84	92	72	34	51
2-HIGH	35	61	36	72	29	35	82	66	85	71	31	39
MO.AVG	29	51	31	48	36	40	56	44	56	48	28	35

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 0820, LAKE CO

SITE. . . . . 010, POLSON (MAL)

CITY. . . . . POLSON

MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

Figure A-20

1982

GED.AVG = 14

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	5	5	5	3	5	4	5	5	5	5	4	5
1-HIGH	19	14	10	19	50	79	36	79	64	34	11	11
2-HIGH	9	12	9	14	38	22	32	59	59	17	10	11
MD.AVG	9	10	8	14	27	32	23	46	44	14	8	9

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 1260, POWELL CO

SITE. . . . . 024, OVANDO

CITY. . . . . OVANDO

MONTANA STATE AIR QUALITY BUREAU

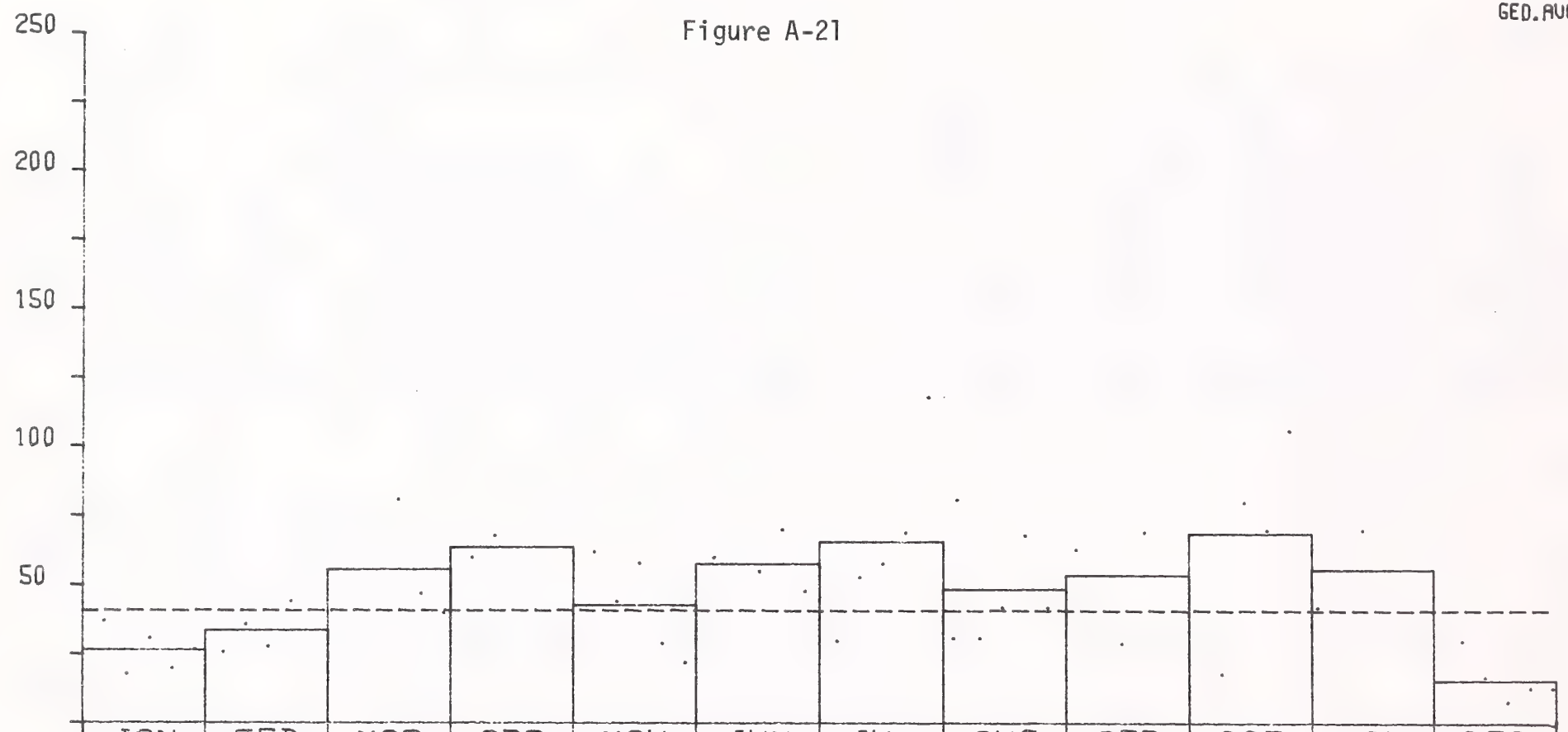
APRIL 1983

TECHNICAL SERVICES

1982

GED.AUG = 41

Figure A-21



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	5	4	3	2	5	4	5	6	3	4	2	5
1-HIGH	37	44	81	68	62	70	118	81	69	106	70	30
2-HIGH	31	36	47	60	58	60	69	68	63	80	42	17
MD.AUG	27	34	56	64	43	58	66	49	54	69	56	16

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 1040, CUSTER CO

SITE. . . . . 003, PCA BUILDING

CITY. . . . . MILES CITY

MONTANA STATE AIR QUALITY BUREAU

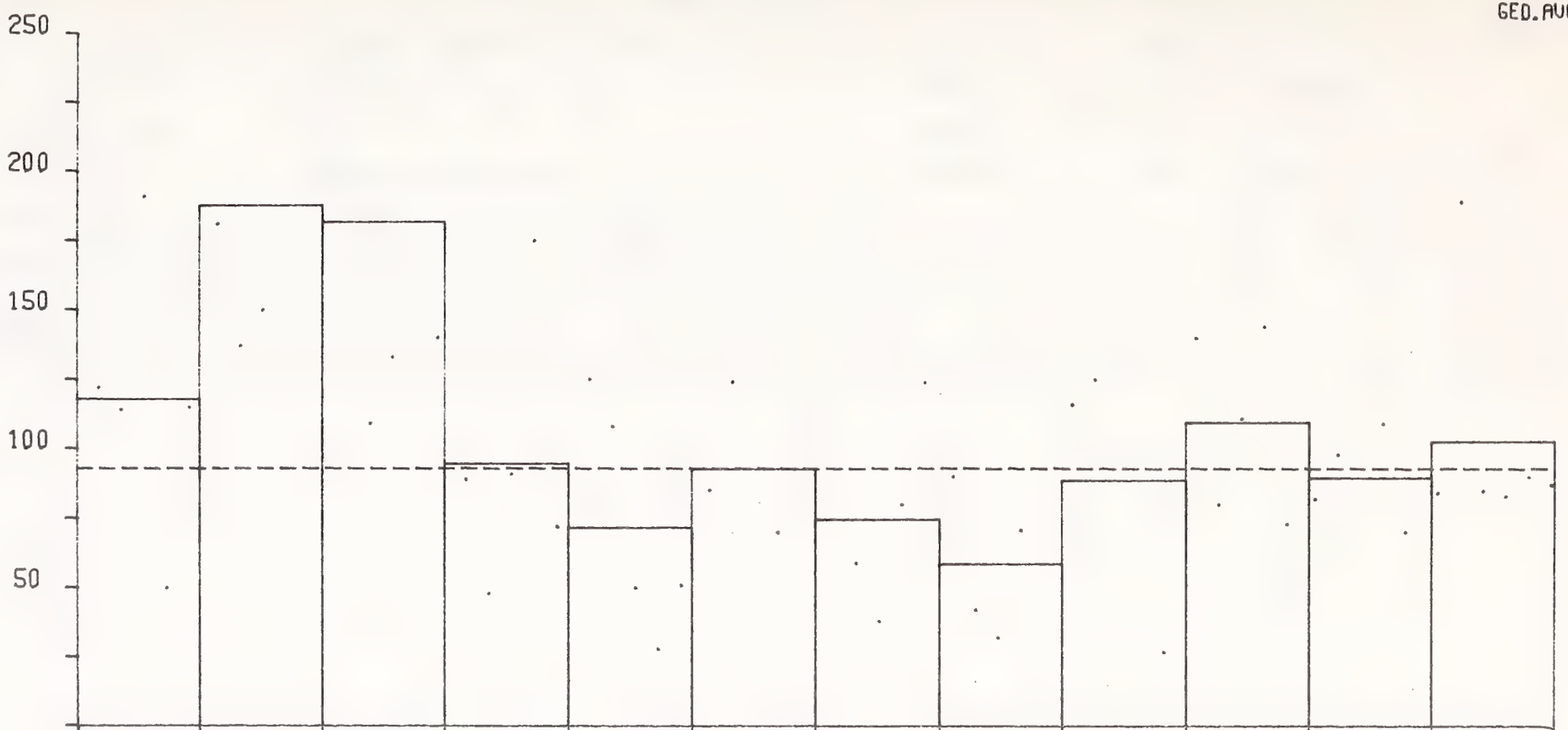
APRIL 1983

TECHNICAL SERVICES

Figure A-22

1982

GED.AUG = 93



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	5	4	4	5	5	3	4	4	3	5	4	6
1-HIGH	191	282	346	175	125	124	124	90	125	144	109	189
2-HIGH	122	181	140	91	108	85	80	71	116	140	98	90
MD.AUG	118	188	182	95	72	93	75	59	89	110	90	103

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 0900, LINCOLN CO

SITE. . . . . 010, BROWN RESIDENCE

CITY. . . . . LIBBY

MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

Figure A-23

1982

GED.AVG = 34

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	5	5	4	5	5	5	4	1	5	5	5	6
1-HIGH	60	57	22	55	34	68	74	50	77	72	47	53
2-HIGH	48	39	21	36	29	39	60		73	58	43	32
NO.AVG	44	37	19	36	25	44	50	50	53	42	35	28

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 0840, YELLOWSTONE CO

SITE. . . . . 001, LAUREL JR HIGH

CITY. . . . . LAUREL

MONTANA STATE AIR QUALITY BUREAU

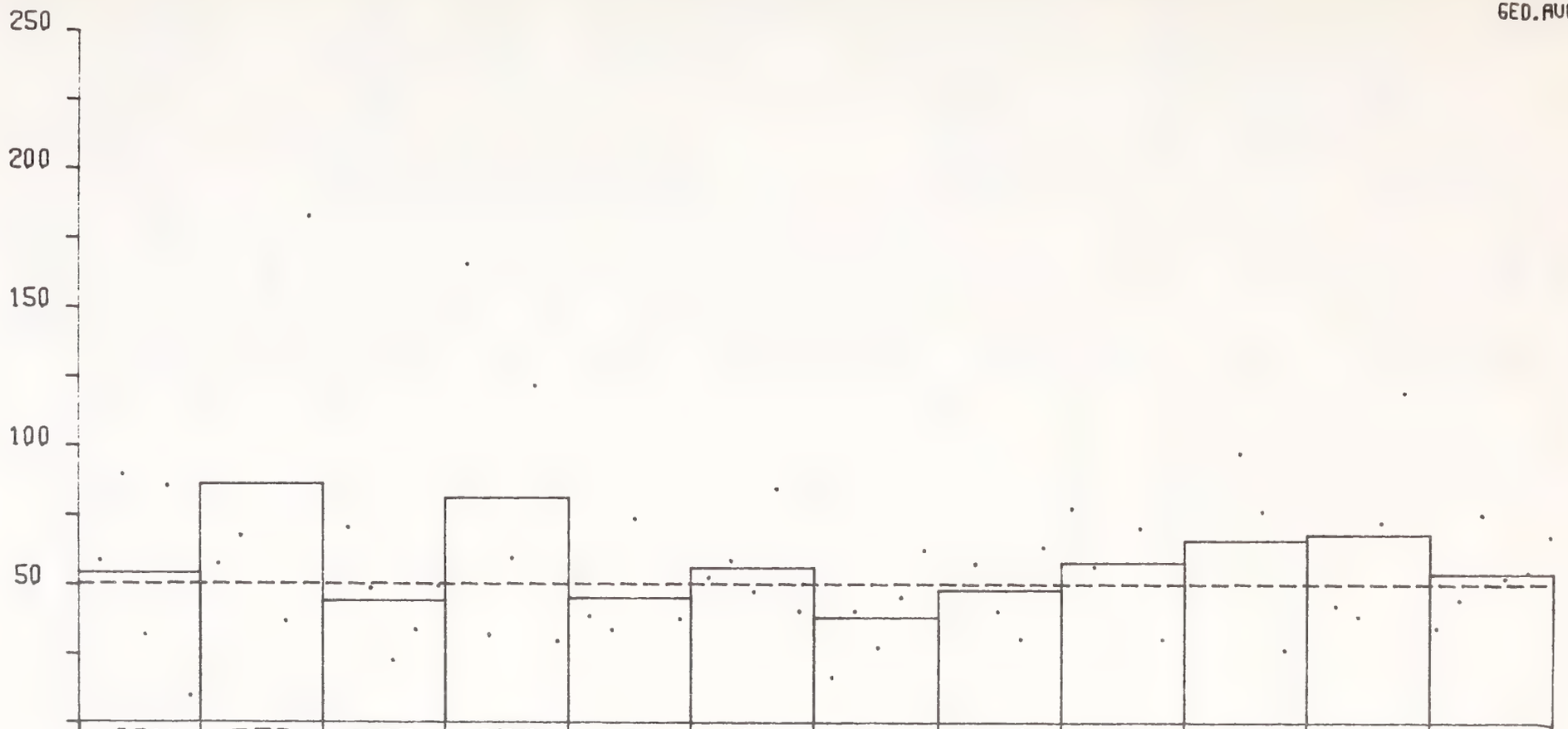
APRIL 1983

TECHNICAL SERVICES

Figure A-24

1982

GED.AUG = 51



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	5	4	5	5	4	5	5	4	4	3	4	6
1-HIGH	90	183	71	166	74	85	63	64	78	98	120	76
2-HIGH	86	68	50	122	39	59	46	58	71	77	73	68
MO.AVG	55	87	45	82	46	57	39	49	59	67	69	55

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 0720, LEWIS & CLARK CO

SITE. . . . . 013, CAPITAL COURTS

CITY. . . . . HELENA

MONTANA STATE AIR QUALITY BUREAU

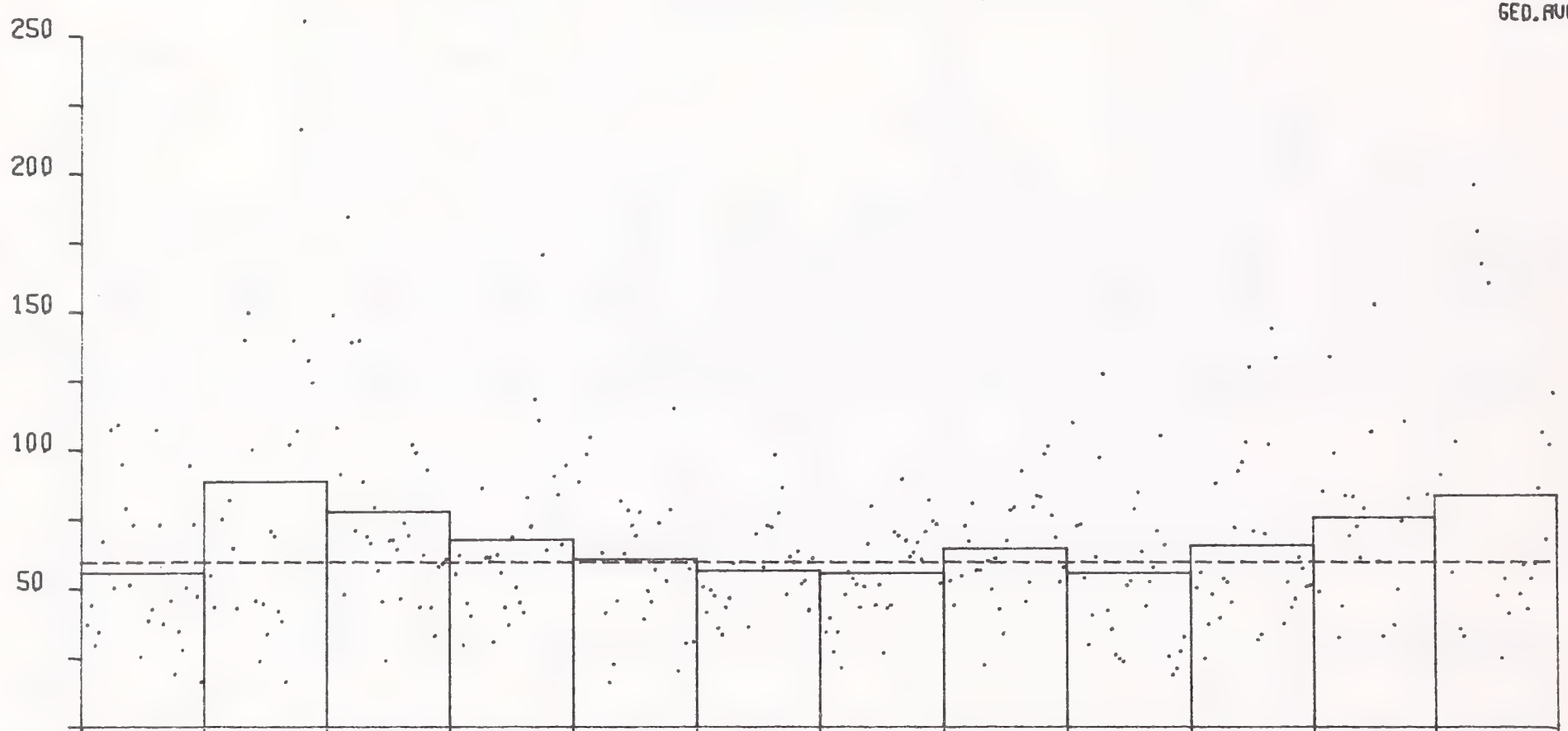
APRIL 1983

TECHNICAL SERVICES

Figure A-25

1982

GED.AVG = 60



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	27	25	31	27	26	25	31	29	30	30	23	23
1-HIGH	109	256	184	171	115	98	89	101	128	144	153	196
2-HIGH	107	216	149	118	105	86	82	99	110	133	134	179
MO.AVG	56	89	78	68	61	57	56	65	56	66	76	84

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 1100, MISSOULA CO

SITE. . . . . 001, COURTHOUSE ROOF

CITY. . . . . MISSOULA

MONTANA STATE AIR QUALITY BUREAU

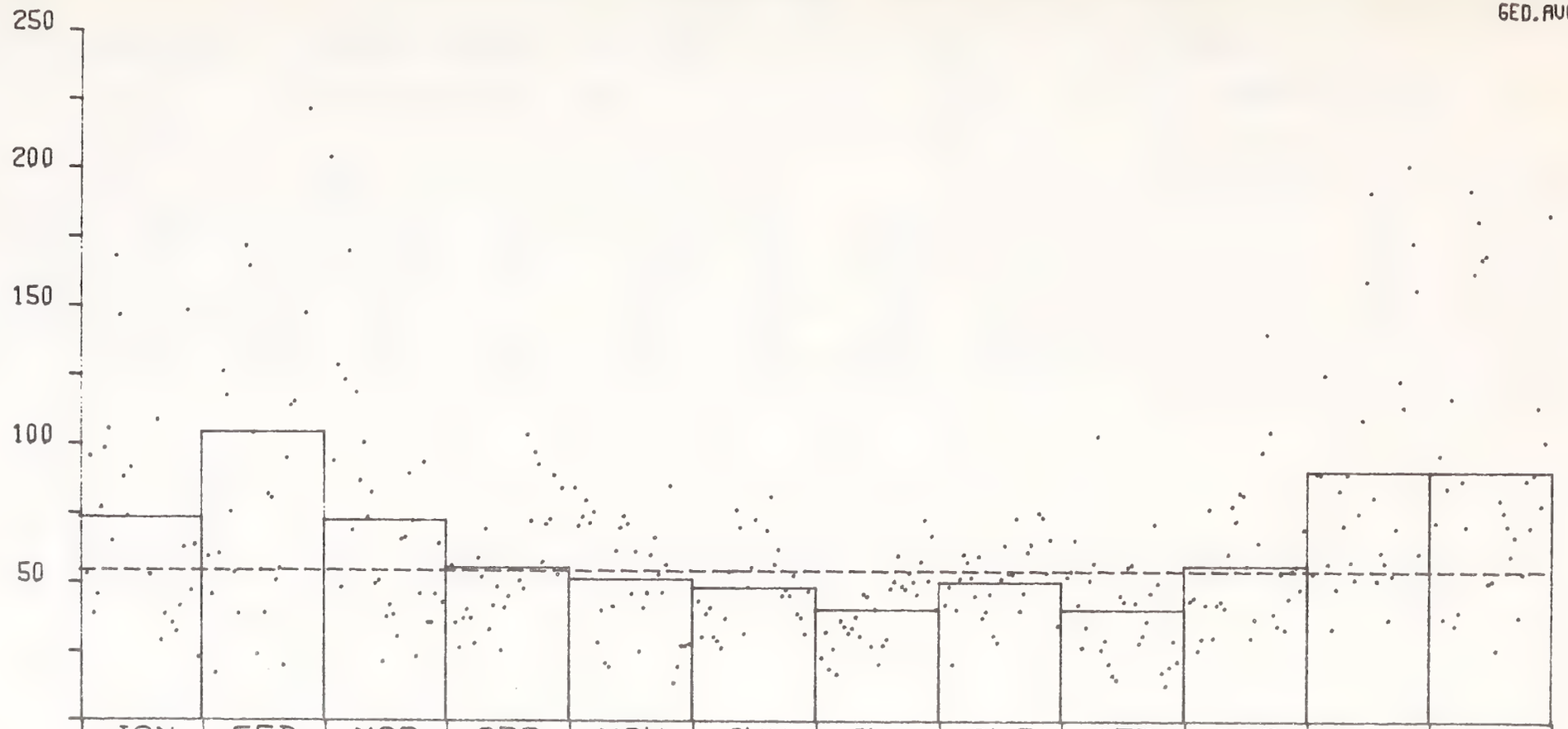
APRIL 1983

TECHNICAL SERVICES

Figure A-26

1982

GED.AUG = 55



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	25	27	31	28	31	28	31	29	30	31	29	31
1-HIGH	168	381	204	104	85	82	73	76	104	141	202	193
2-HIGH	149	313	170	97	85	77	68	74	72	105	192	184
MD.AUG	74	105	73	56	52	49	41	51	41	57	91	91

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 1100, MISSOULA CO

SITE. . . . . 020, ROSE PARK

CITY. . . . . MISSOULA

MONTANA STATE AIR QUALITY BUREAU

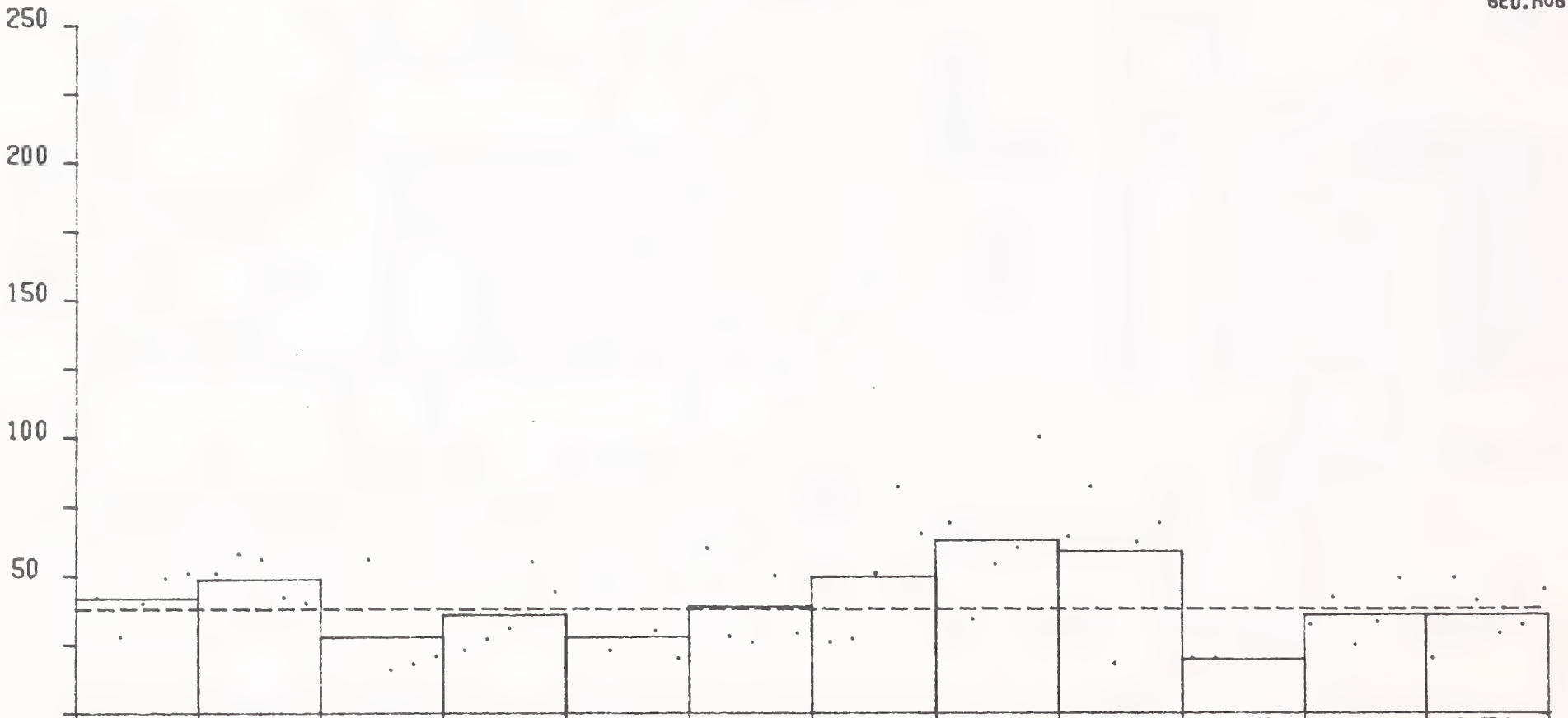
APRIL 1983

TECHNICAL SERVICES

Figure A-27

1982

GEO.AVG = 38



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	5	5	4	5	4	5	5	5	5	2	5	6
1-HIGH	51	58	56	55	38	60	82	100	82	20	49	49
2-HIGH	49	56	21	44	30	50	65	69	69	20	42	45
MO.AVG	42	49	28	36	28	39	50	63	59	20	36	36

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 0080, YELLOWSTONE CO

SITE. . . . . 006, LOCKWOOD SCHOOL

CITY. . . . . BILLINGS

MONTANA STATE AIR QUALITY BUREAU

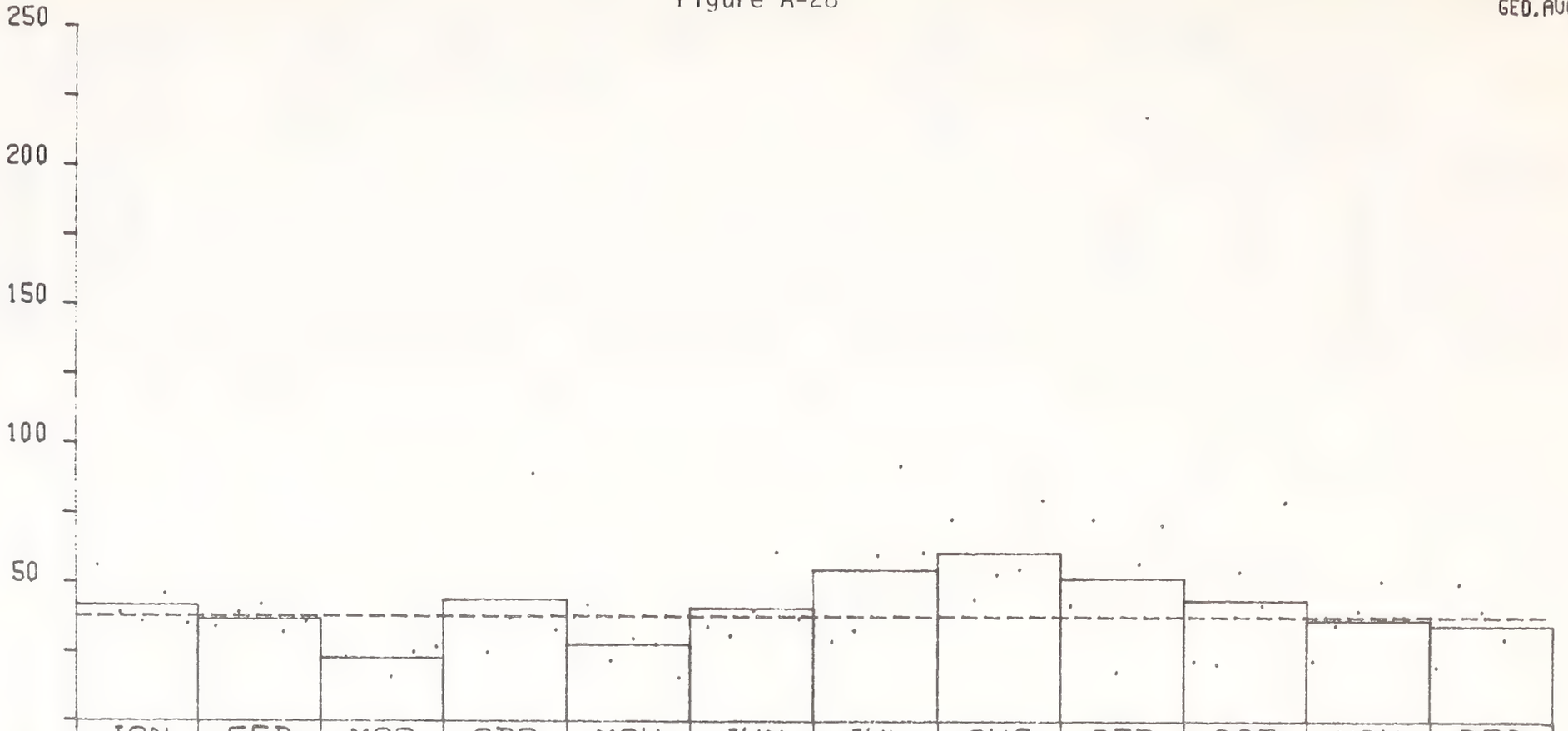
APRIL 1983

TECHNICAL SERVICES

Figure A-28

1982

GEO.AUG = 38



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	5	5	4	5	5	5	5	5	5	5	5	4
1-HIGH	56	42	27	89	42	61	92	80	73	79	51	50
2-HIGH	46	39	25	38	30	40	61	73	71	54	40	40
MO.AVG	42	37	23	44	28	41	55	61	52	44	37	35

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 0080, YELLOWSTONE CO

SITE. . . . . 007, KGHL

CITY. . . . . BILLINHS

MONTANA STATE AIR QUALITY BUREAU

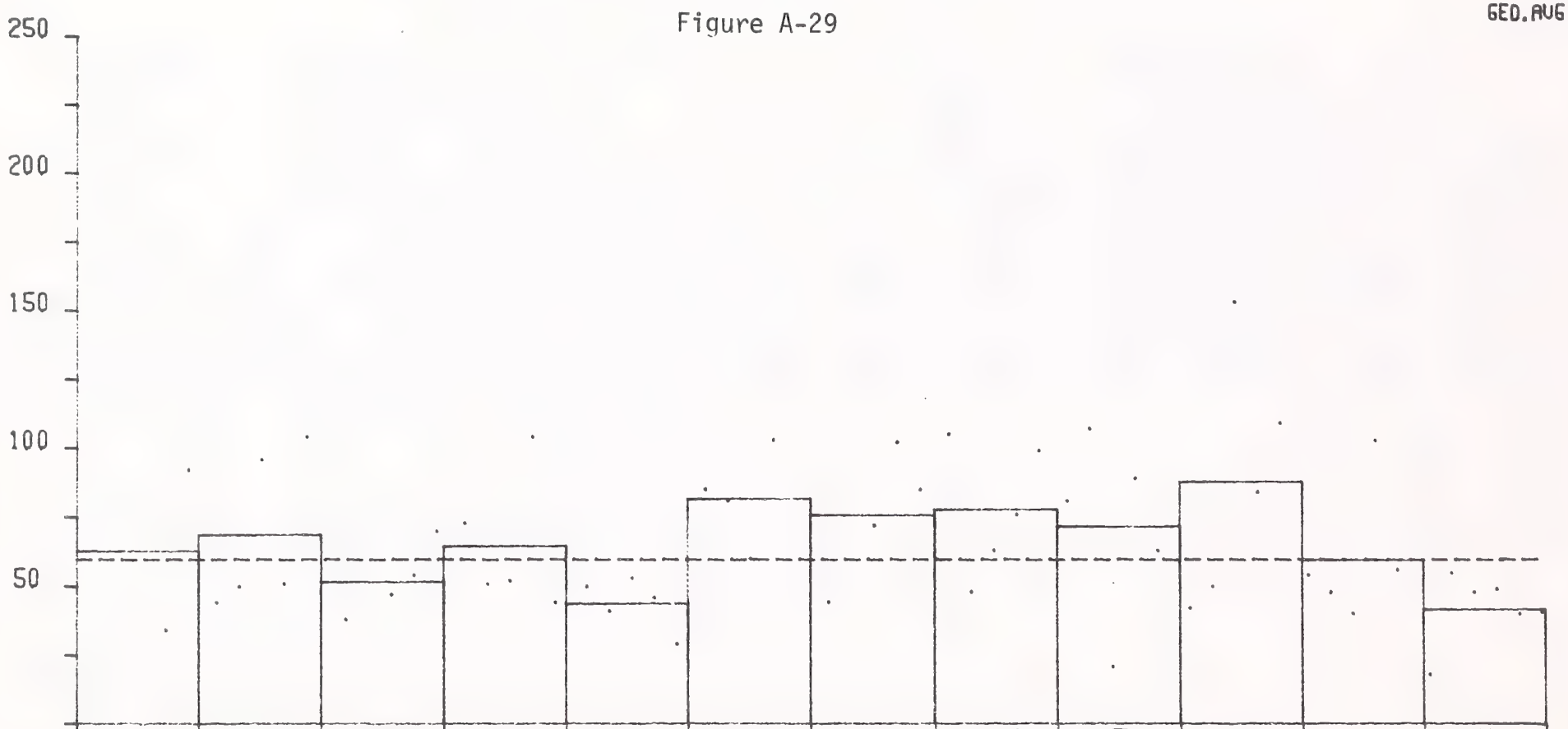
APRIL 1983

TECHNICAL SERVICES

1982

GEO.AVG = 60

Figure A-29



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	2	5	4	5	5	4	4	5	5	5	5	6
1-HIGH	92	104	70	104	53	103	102	105	107	153	103	55
2-HIGH	34	96	54	73	50	85	85	99	89	109	56	49
MO.AVG	63	69	52	65	44	82	76	78	72	88	60	42

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 0080, YELLOWSTONE CO

SITE. . . . . 008, CITY HALL

CITY. . . . . BILLINGS

MONTANA STATE AIR QUALITY BUREAU

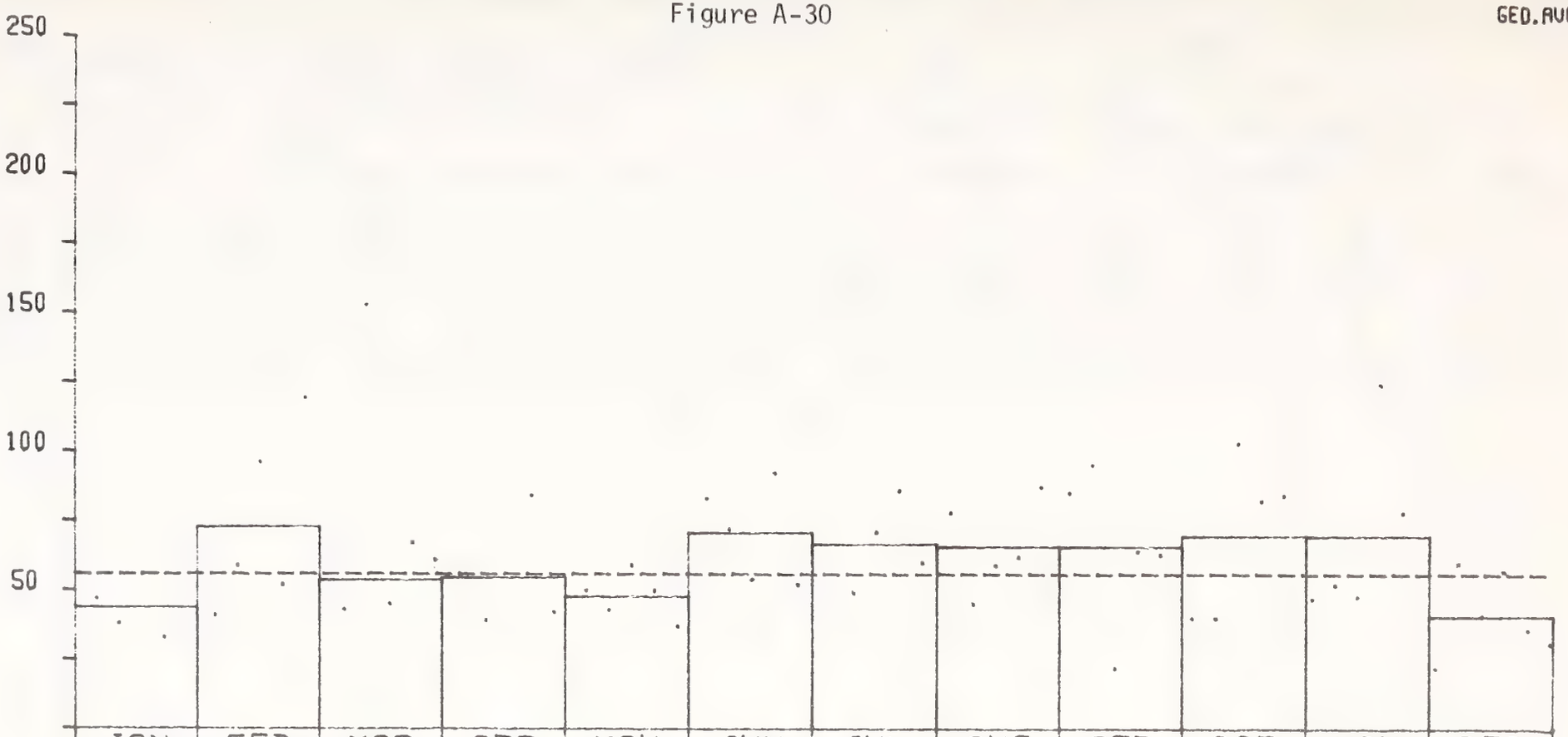
APRIL 1983

TECHNICAL SERVICES

1982

Figure A-30

GED.AVG = 56



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	4	5	4	3	5	5	4	5	5	5	5	6
1-HIGH	56	119	67	84	59	92	86	87	95	103	124	60
2-HIGH	47	96	61	42	50	83	71	78	85	84	78	57
MO.AVG	44	73	54	55	48	71	67	66	66	70	70	41

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 0080, YELLOWSTONE CO

SITE. . . . . 009, GRAND AVE SCHOOL

CITY. . . . . BILLINGS

MONTANA STATE AIR QUALITY BUREAU

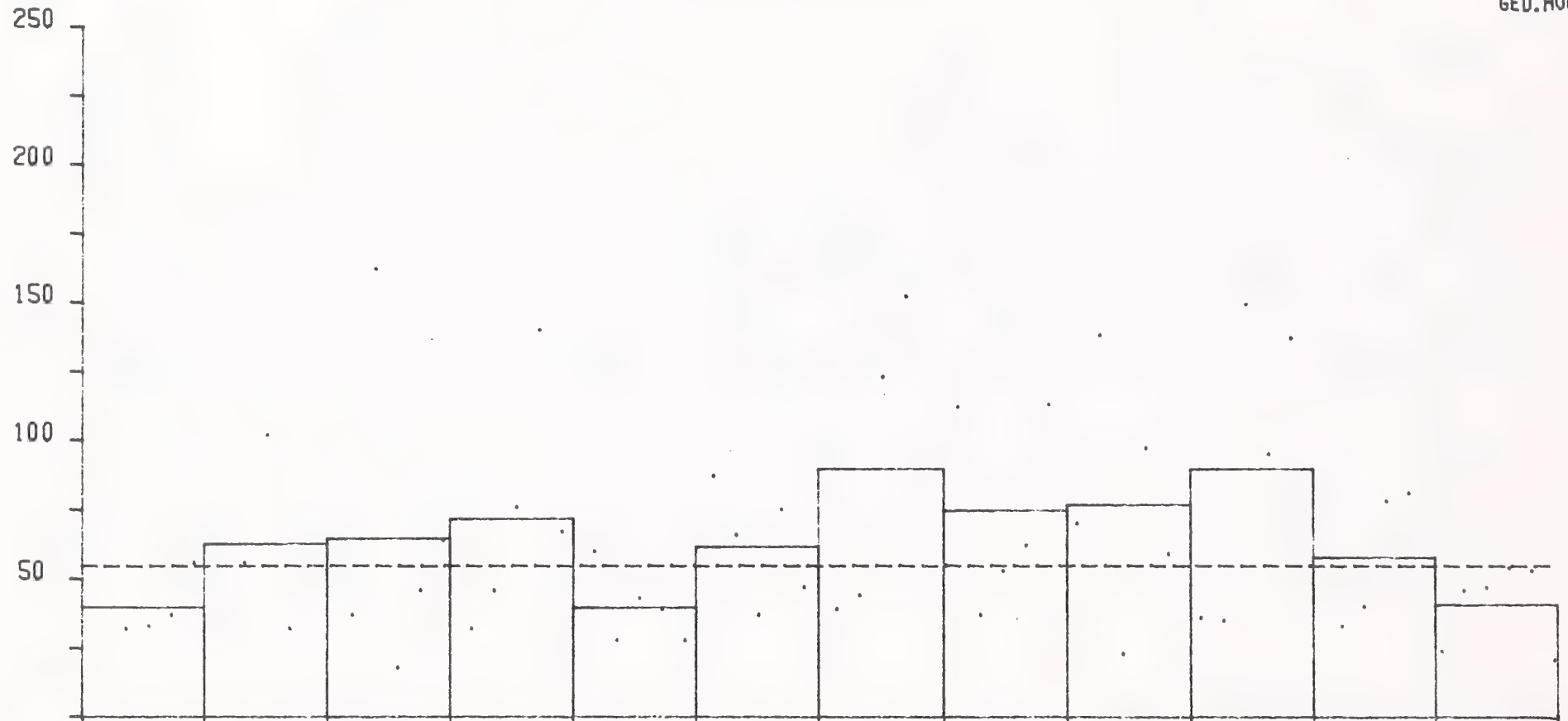
APRIL 1983

TECHNICAL SERVICES

Figure A-31

1982

GED.AVG = 55



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	4	3	5	5	5	5	4	5	5	5	4	6
1-HIGH	56	102	162	140	60	87	152	113	138	149	81	54
2-HIGH	37	56	64	76	43	75	123	112	97	137	78	53
MO.AVG	40	63	65	72	40	62	90	75	77	90	58	41

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 0080, YELLOWSTONE CO

SITE. . . . . 062, TAFT SCHOOL

CITY. . . . . BILLINGS

MONTANA STATE AIR QUALITY BUREAU

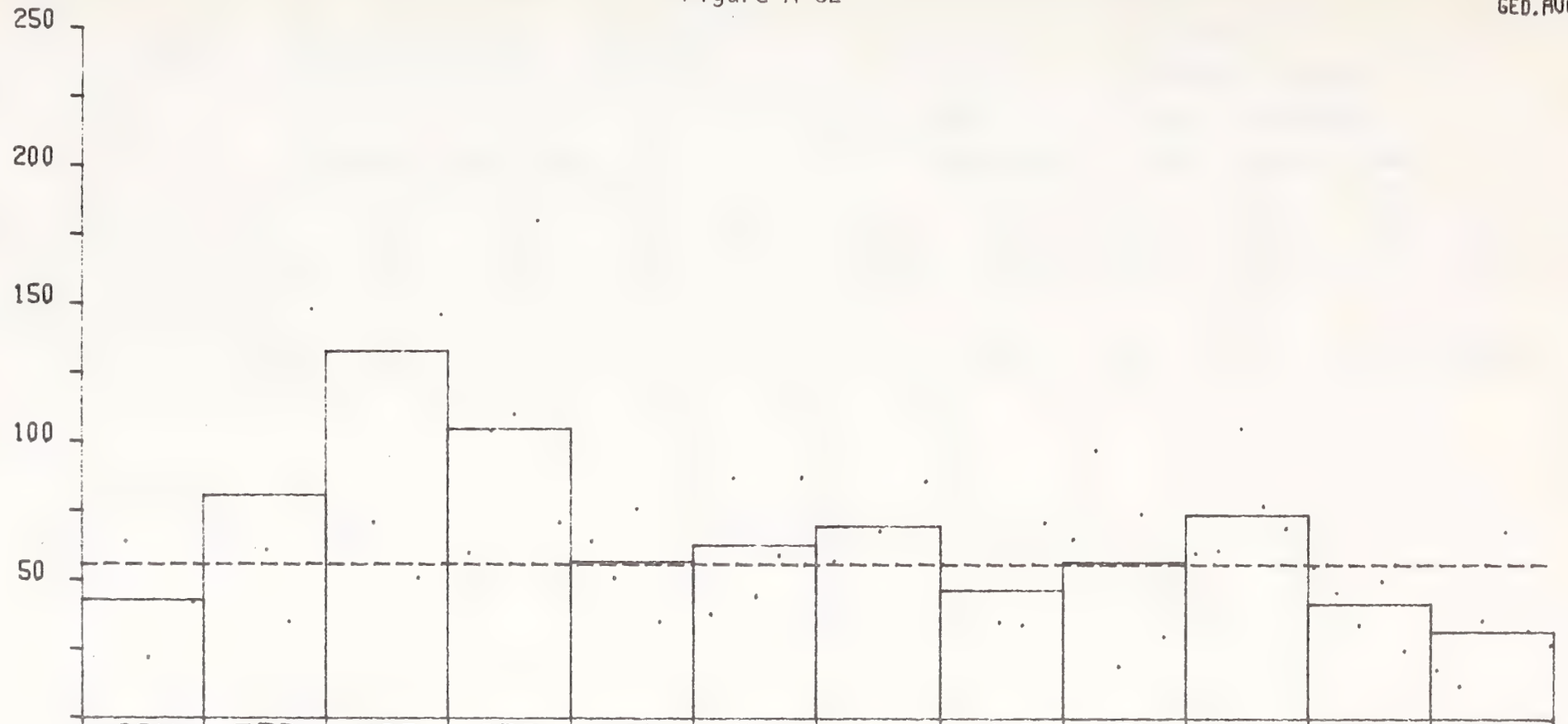
APRIL 1983

TECHNICAL SERVICES

Figure A-32

1982

GED.AVG = 56



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	3	3	4	5	4	5	3	3	5	5	5	6
1-HIGH	64	148	265	180	76	87	86	71	97	105	55	68
2-HIGH	42	61	146	110	64	87	68	35	74	77	50	36
MO.AVG	43	81	133	105	57	63	70	47	57	74	42	32

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 0120, GALLATIN CO

SITE. . . . . 002, EAST MAIN CITY BLDG

CITY. . . . . BOZEMAN

MONTANA STATE AIR QUALITY BUREAU

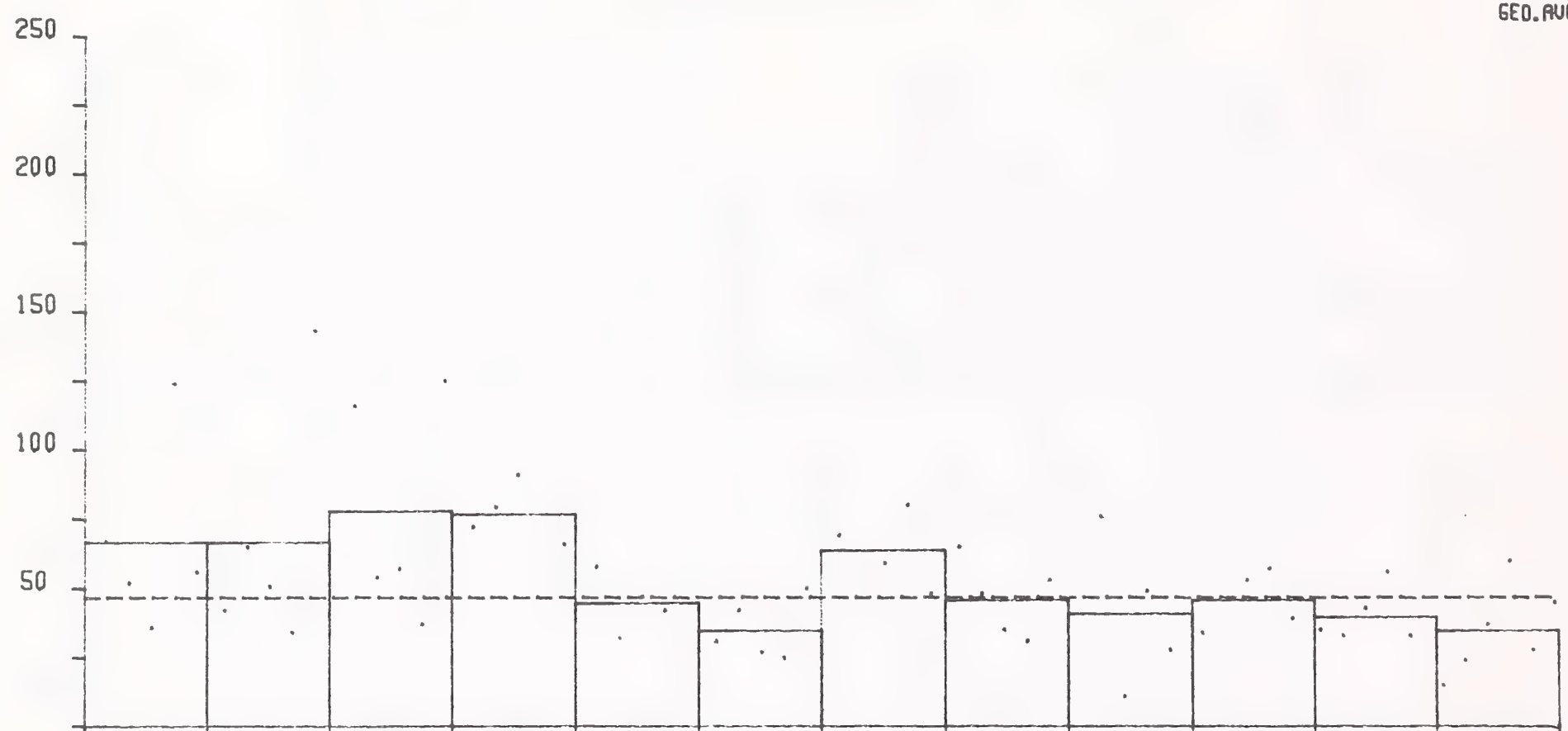
APRIL 1983

TECHNICAL SERVICES

Figure A-33

1982

GEO.AVG = 47



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	5	5	5	4	4	5	4	5	4	4	5	6
1-HIGH	124	143	125	91	58	50	80	65	76	57	56	60
2-HIGH	67	65	116	79	47	42	69	53	49	53	43	45
MO.AVG	67	67	78	77	45	35	64	46	41	46	40	35

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 0120, GALLATIN CO

SITE. . . . . 005, WHITTIER SCHOOL

CITY. . . . . BOZEMAN

MONTANA STATE AIR QUALITY BUREAU

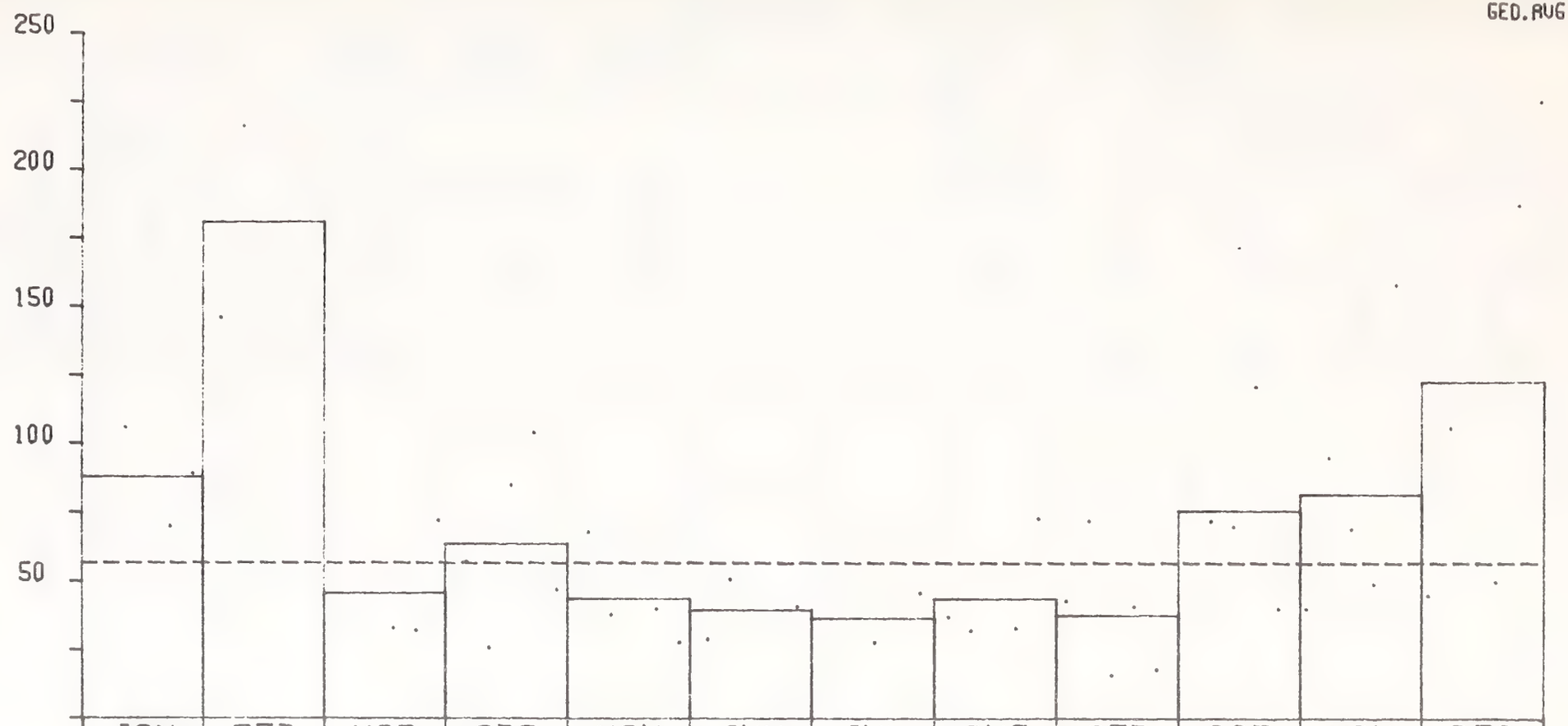
APRIL 1983

TECHNICAL SERVICES

Figure A-34

1982

GED.AVG = 57



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	3	2	3	5	4	3	2	4	5	4	5	5
1-HIGH	106	216	72	104	68	51	46	73	72	121	158	225
2-HIGH	89	146	33	85	40	41	28	37	43	72	95	187
MO.AVG	88	181	46	64	44	40	37	44	38	76	82	123

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 0160, SILVER BOW CO

SITE. . . . . 005, GREELEY SCHOOL

CITY. . . . . BUTTE

MONTANA STATE AIR QUALITY BUREAU

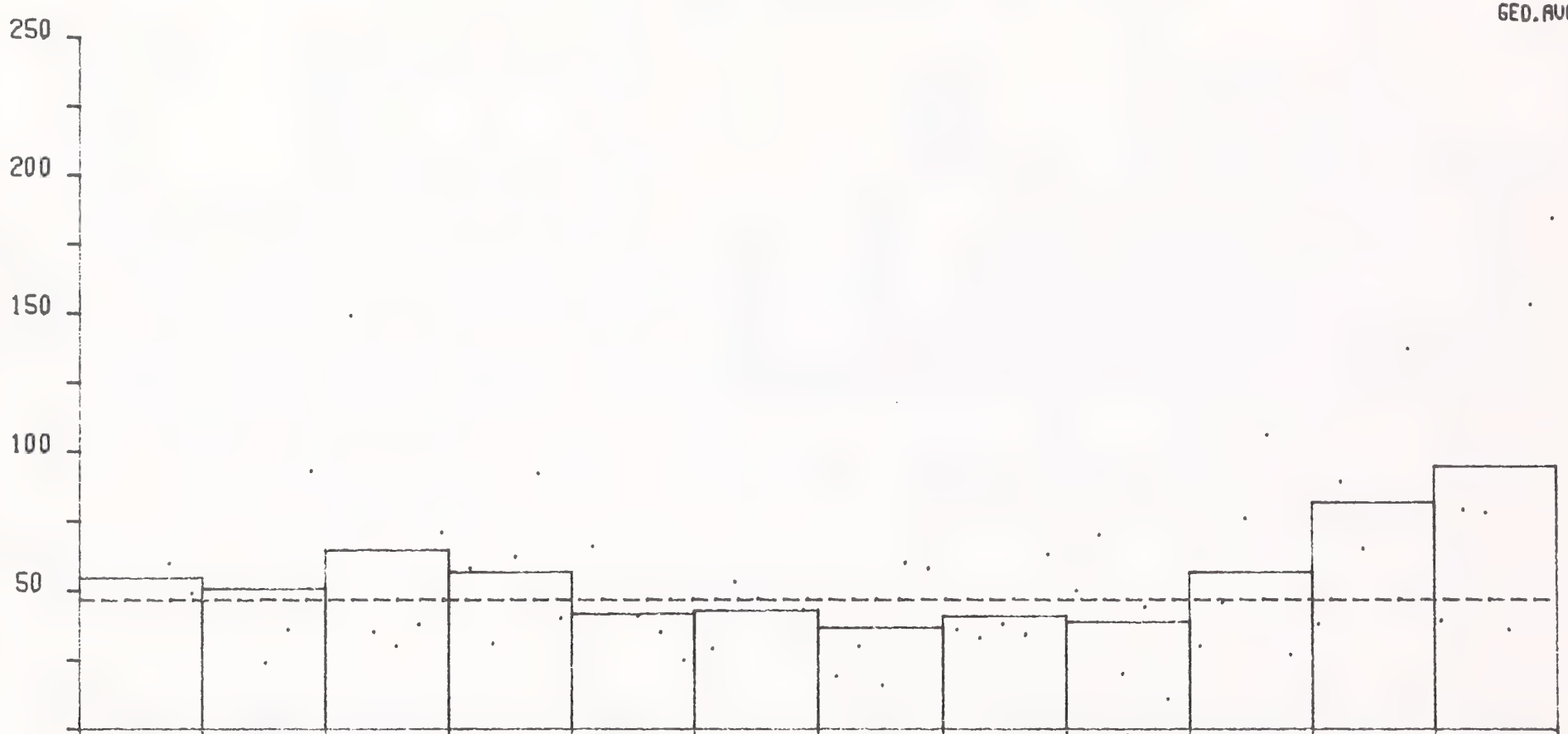
APRIL 1983

TECHNICAL SERVICES

Figure A-35

1982

GEO.AVG = 47



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	2	3	5	5	4	4	5	5	5	5	4	6
1-HIGH	60	93	149	92	66	53	60	63	70	106	137	184
2-HIGH	49	36	71	62	41	47	58	38	50	76	89	153
MO.AVG	55	51	65	57	42	43	37	41	39	57	82	95

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 0160, SILVER BOW CO

SITE. . . . . 018, HEBGEN PARK

CITY. . . . . BUTTE

MONTANA STATE AIR QUALITY BUREAU

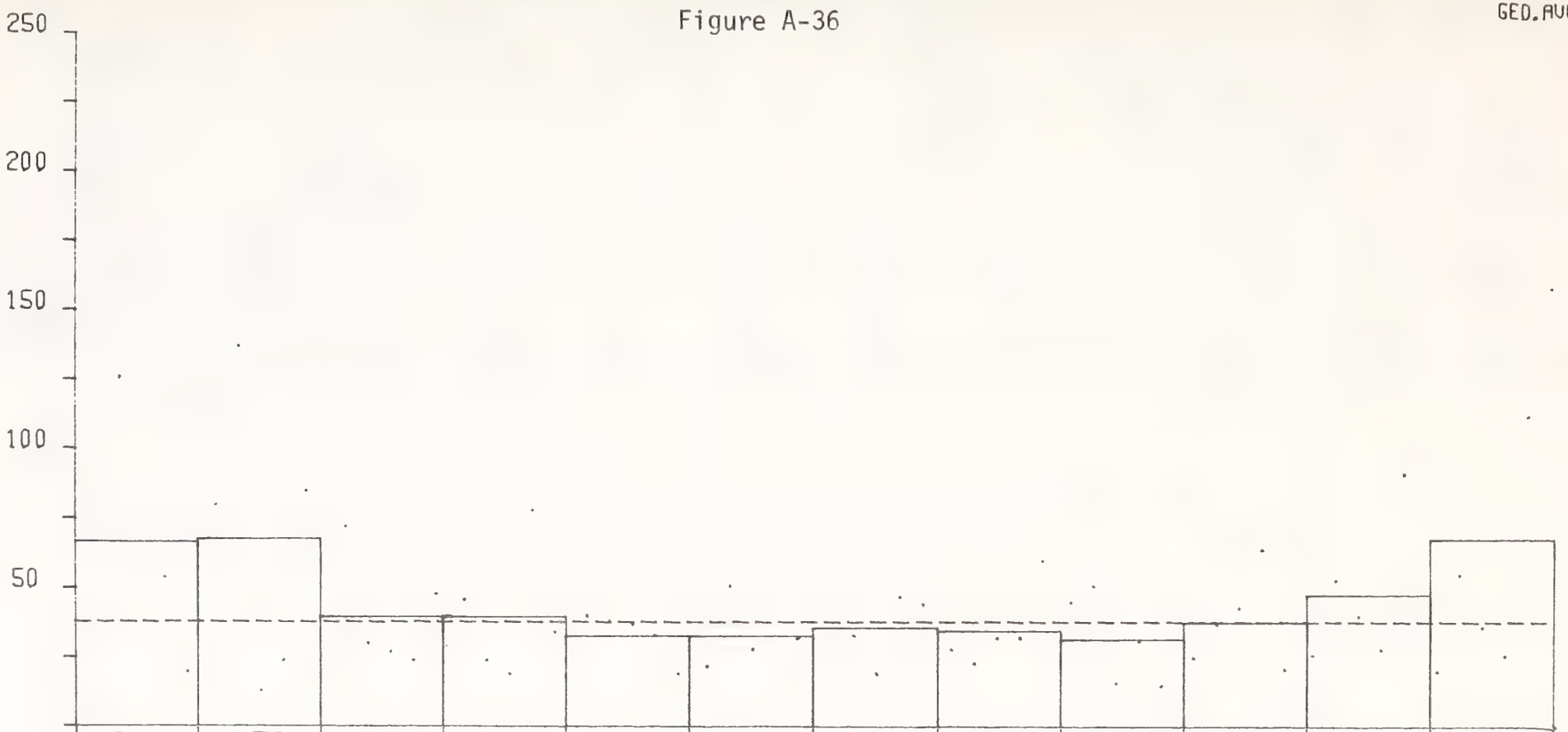
APRIL 1983

TECHNICAL SERVICES

1982

GED.AVG = 38

Figure A-36



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	3	5	5	5	5	4	4	5	5	5	5	6
1-HIGH	126	137	72	78	40	51	47	60	51	64	91	158
2-HIGH	54	85	48	46	38	32	44	32	45	43	53	112
MO.AVG	67	68	40	40	33	33	36	35	32	38	48	68

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 0160, SILVER BOW CO

SITE. . . . . 019, DR CANTY OFFICE

CITY. . . . . BUTTE

MONTANA STATE AIR QUALITY BUREAU

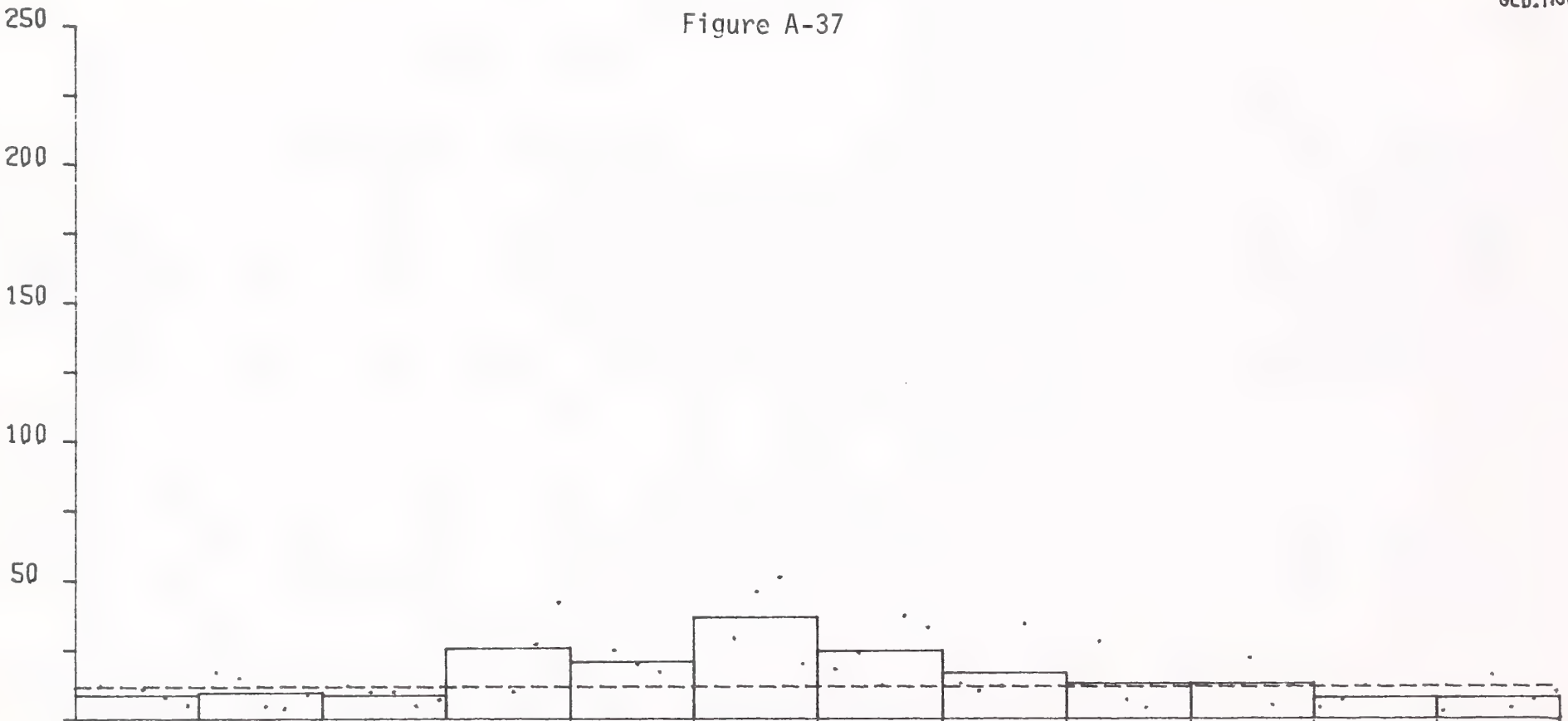
APRIL 1983

TECHNICAL SERVICES

1982

GED.AVG = 12

Figure A-37



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	4	5	5	3	3	4	5	4	3	3	3	5
1-HIGH	12	17	12	42	25	51	37	34	28	22	12	16
2-HIGH	11	15	10	27	20	46	33	13	7	12	7	10
MO.AVG	9	10	9	26	21	37	25	17	13	13	8	8

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 0570, GLACIER NATL PARK

SITE. . . . . 007, FIRE WEATHER ST

CITY. . . . . WEST GLACIER

MONTANA STATE AIR QUALITY BUREAU

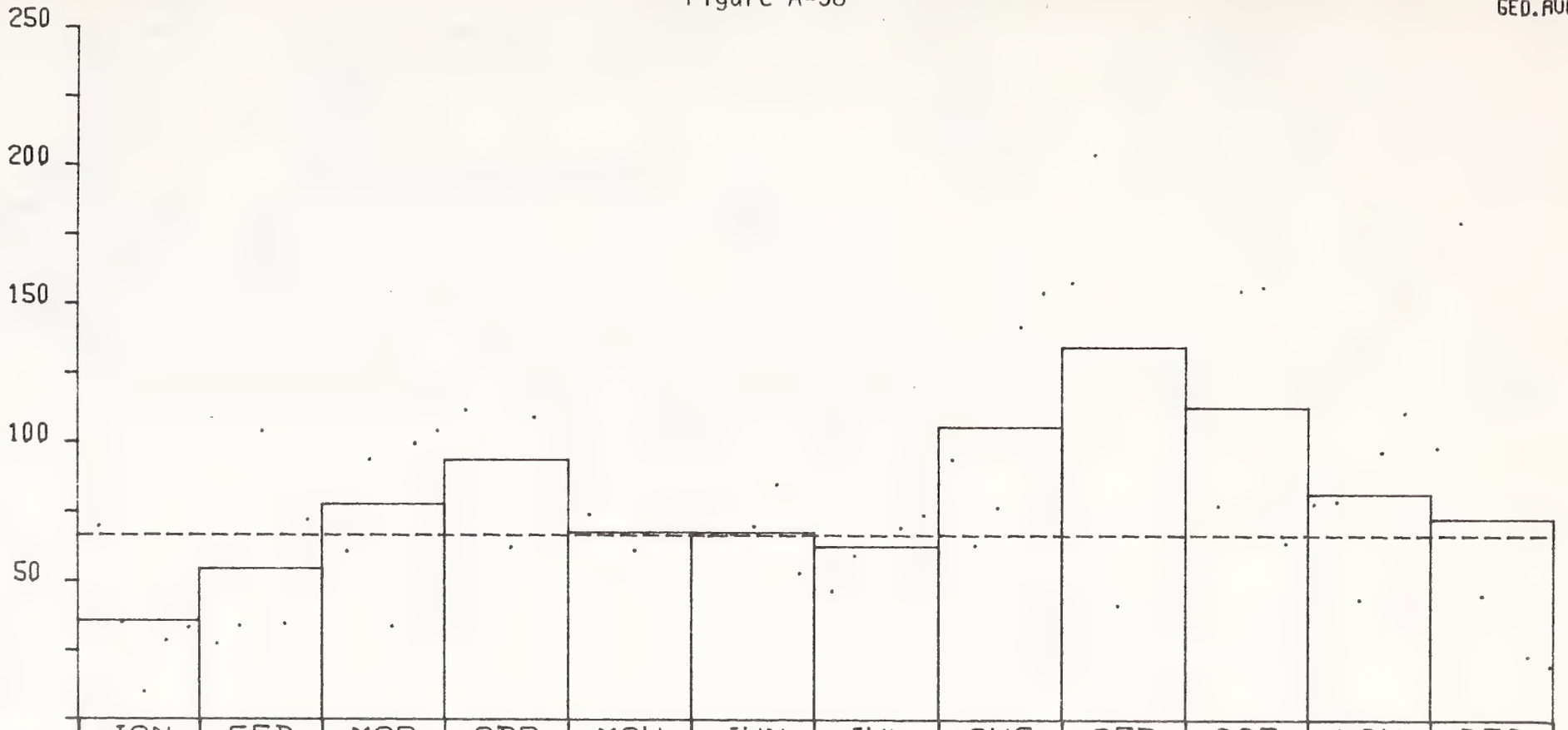
APRIL 1983

TECHNICAL SERVICES

Figure A-38

1982

GED.AVG = 67



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	5	5	5	3	3	5	4	5	3	4	5	5
1-HIGH	70	104	104	112	74	85	74	154	204	156	111	180
2-HIGH	35	72	99	109	67	70	70	142	158	155	97	98
MD.AVG	36	55	78	94	68	68	63	106	135	113	82	73

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 0660, CASCADE CO

SITE. . . . . 009, FIRE STA #1

CITY. . . . . GREAT FALLS

MONTANA STATE AIR QUALITY BUREAU

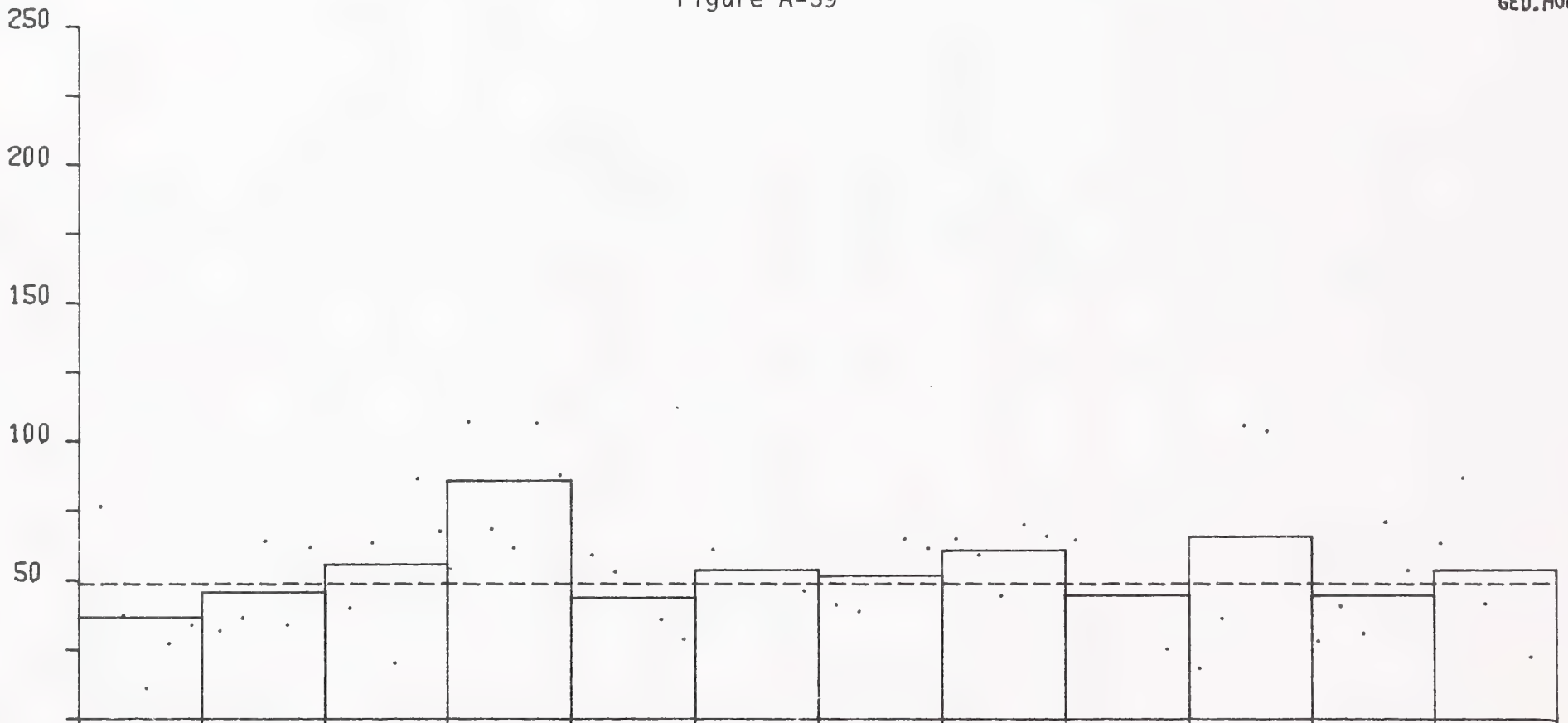
APRIL 1983

TECHNICAL SERVICES

1982

GED.AVG = 49

Figure A-39



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	5	5	5	5	4	2	4	5	2	4	5	4
1-HIGH	77	64	86	107	59	61	65	70	65	106	71	87
2-HIGH	37	62	68	107	53	46	62	66	25	104	54	63
MD.AVG	37	46	56	86	44	54	52	61	45	66	45	54

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 0660, CASCADE CO

SITE. . . . . 017, DOWNTOWN

CITY. . . . . GREAT FALLS

MONTANA STATE AIR QUALITY BUREAU

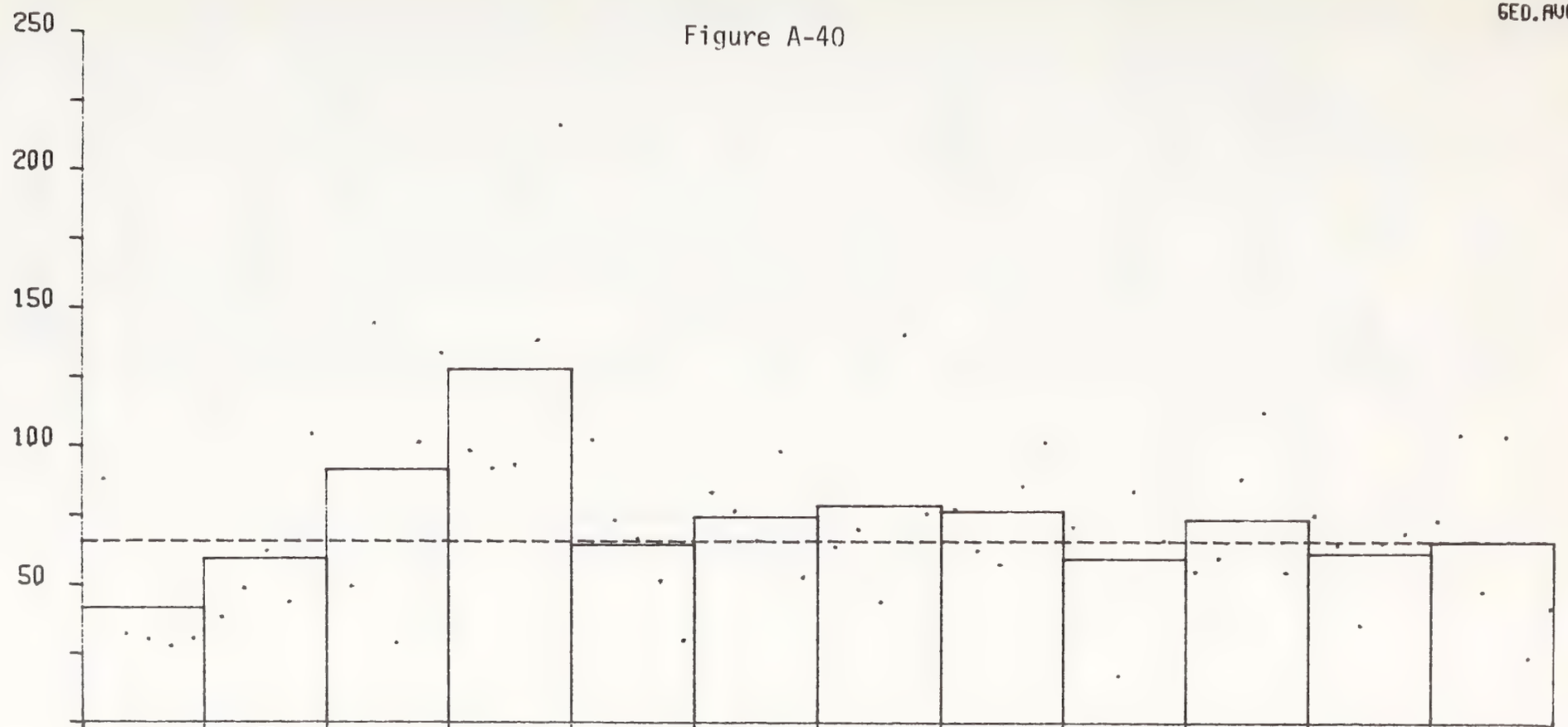
APRIL 1983

TECHNICAL SERVICES

1982

GED.AVG = 66

Figure A-40



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	5	5	5	5	5	5	5	5	4	5	5	6
1-HIGH	88	105	144	216	102	98	140	102	84	112	75	105
2-HIGH	32	62	134	138	73	83	76	86	71	88	69	104
MO.AVG	42	60	92	128	65	75	79	77	60	74	62	66

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 0660, CASCADE CO

SITE. . . . . 019, BLACK EAGLE

CITY. . . . . GREAT FALLS

MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

SECTION B

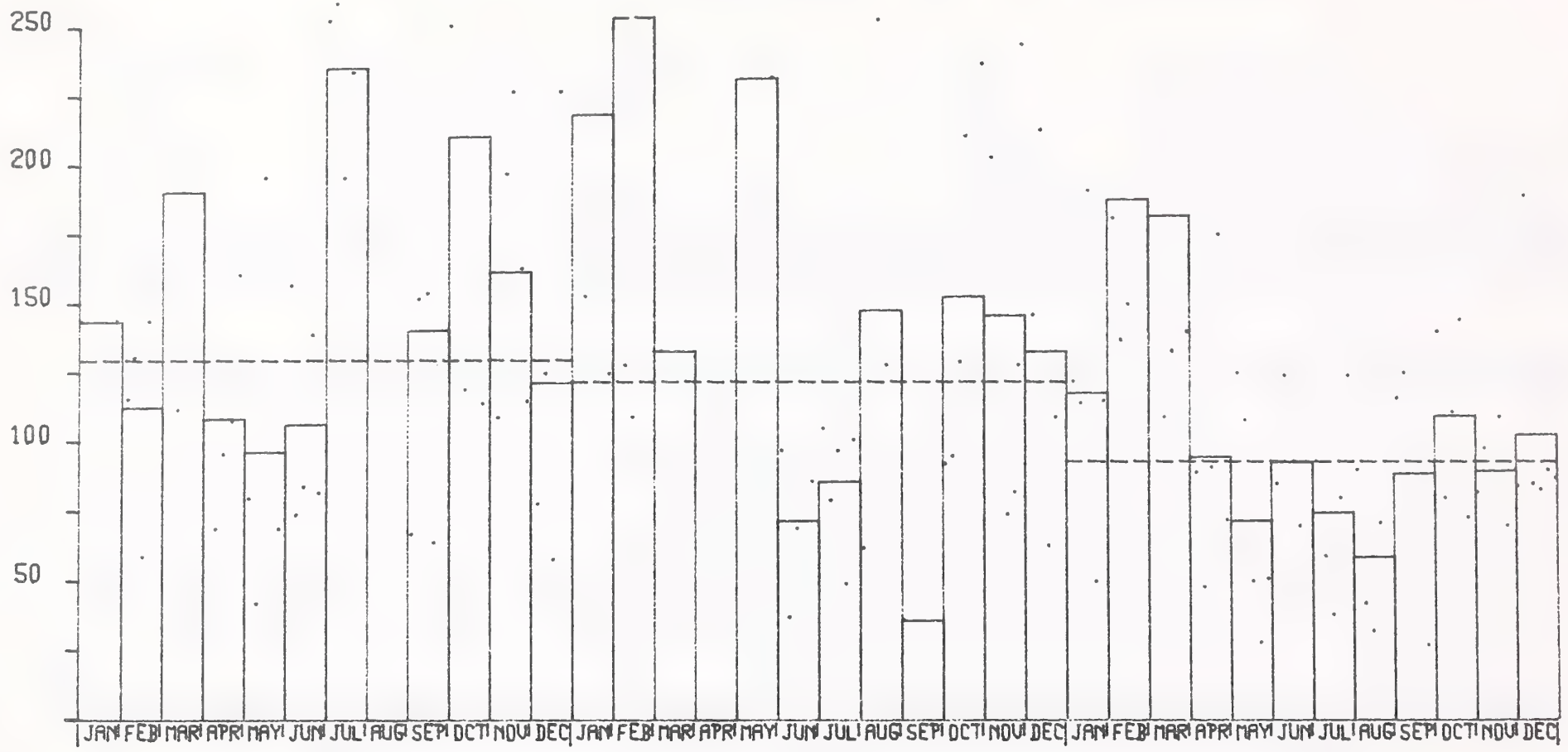
Three Year Plots

vs

TSP ug/m³

1980-1983

Figure B-1



NUM OBS	1	4	2	4	4	5	4		5	5	5	4	3	4	1		1	4	5	3	1	5	5	4	5	4	4	5	5	3	4	4	3	5	4	6
MO. AVG	144	113	191	109	97	107	236		141	211	162	122	219	254	133		232	72	86	148	36	153	146	133	118	188	182	95	72	93	75	59	89	110	90	103
GEO. AVG	130												122												93											

PLOT. . . . . CONCENTRATION VERSUS TIME
METHOD . . . . . HI VOL
UNITS . . . . . MICROGRAMS/CUBIC METER
STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

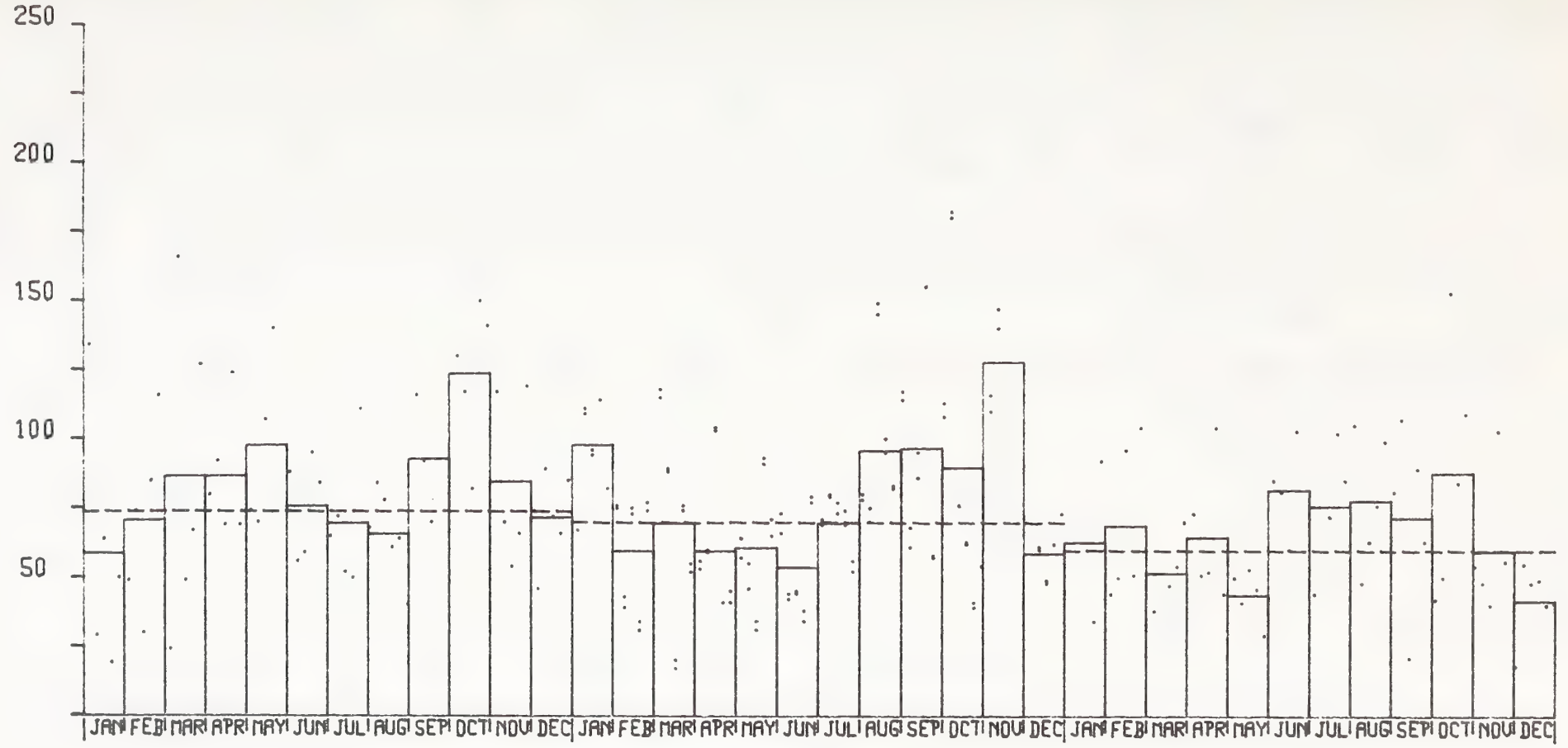
PARAMETER . . TOTAL SUSPENDED PARTICULATES
AREA. . . . . 0900, LINCOLN CO
SITE. . . . . 010, BROWN RESIDENCE
CITY. . . . . LIBBY

MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

Figure B-2



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM OBS	5	5	5	5	4	5	5	6	3	5	5	5	8	10	10	10	10	10	10	10	10	11	4	7	2	5	4	5	5	4	4	5	5	5	5	6
MO.AVG	59	71	87	87	98	76	70	66	93	124	85	72	98	60	70	60	61	54	70	96	97	90	128	59	63	69	52	65	44	82	76	78	72	88	60	42
GEO.AVG	74												70												60											

PLOT. . . . . CONCENTRATION VERSUS TIME
METHOD . . . . . HI VOL
UNITS . . . . . MICROGRAMS/CUBIC METER
STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

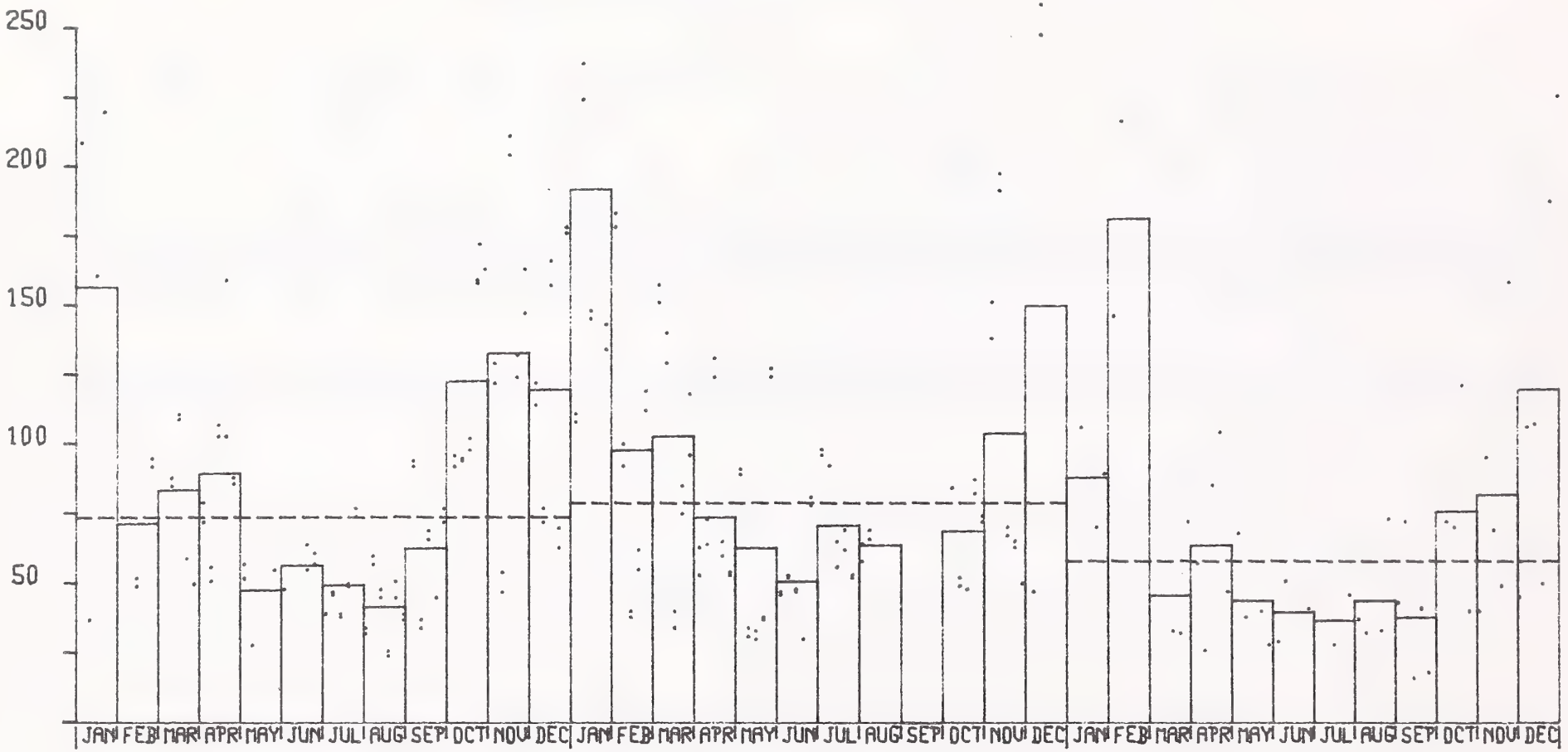
PARAMETER . . TOTAL SUSPENDED PARTICULATES
AREA. . . . . 0080, YELLOWSTONE CO
SITE. . . . . 008, CITY HALL
CITY. . . . . BILLINGS

MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

Figure B-3



NUM OBS	4	4	6	10	4	5	10	12	10	10	10	10	10	10	10	10	10	10	9	4		8	10	4	3	2	3	5	4	3	2	4	5	4	5	6
MO.AVG	157	72	84	90	48	57	50	42	63	123	133	120	192	98	103	74	63	51	71	64		69	104	150	88	181	46	64	44	40	37	44	38	76	82	120
GED.AVG	74												79												58											

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 0160, SILVER BOW CO

SITE. . . . . 005, GREELEY SCHOOL

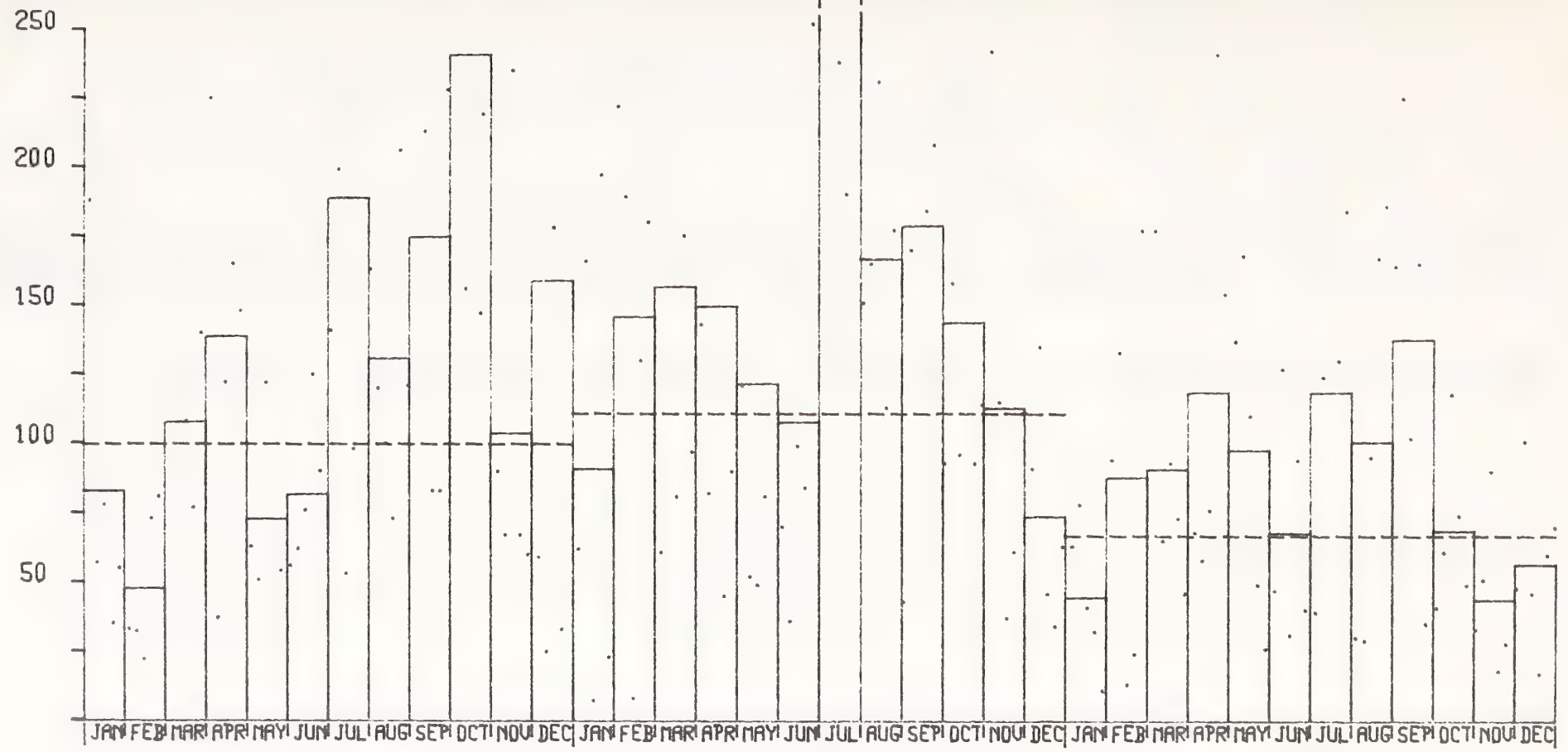
CITY. . . . . BUTTE

MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

Figure B-4



NUM OBS	5	5	3	5	4	5	5	6	5	5	5	5	5	5	5	5	5	5	5	5	5	6	5	5	5	5	5	5	5	4	5	5	5	5	6
MO.AVG	83	48	108	139	73	82	189	131	175	241	104	159	91	146	157	150	122	108	319	167	179	144	113	74	45	88	91	119	98	68	119	101	138	69	44	57
GEO.AVG	100												111												67											

PLOT. . . . . CONCENTRATION VERSUS TIME
METHOD . . . . . HI VOL
UNITS . . . . . MICROGRAMS/CUBIC METER
STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

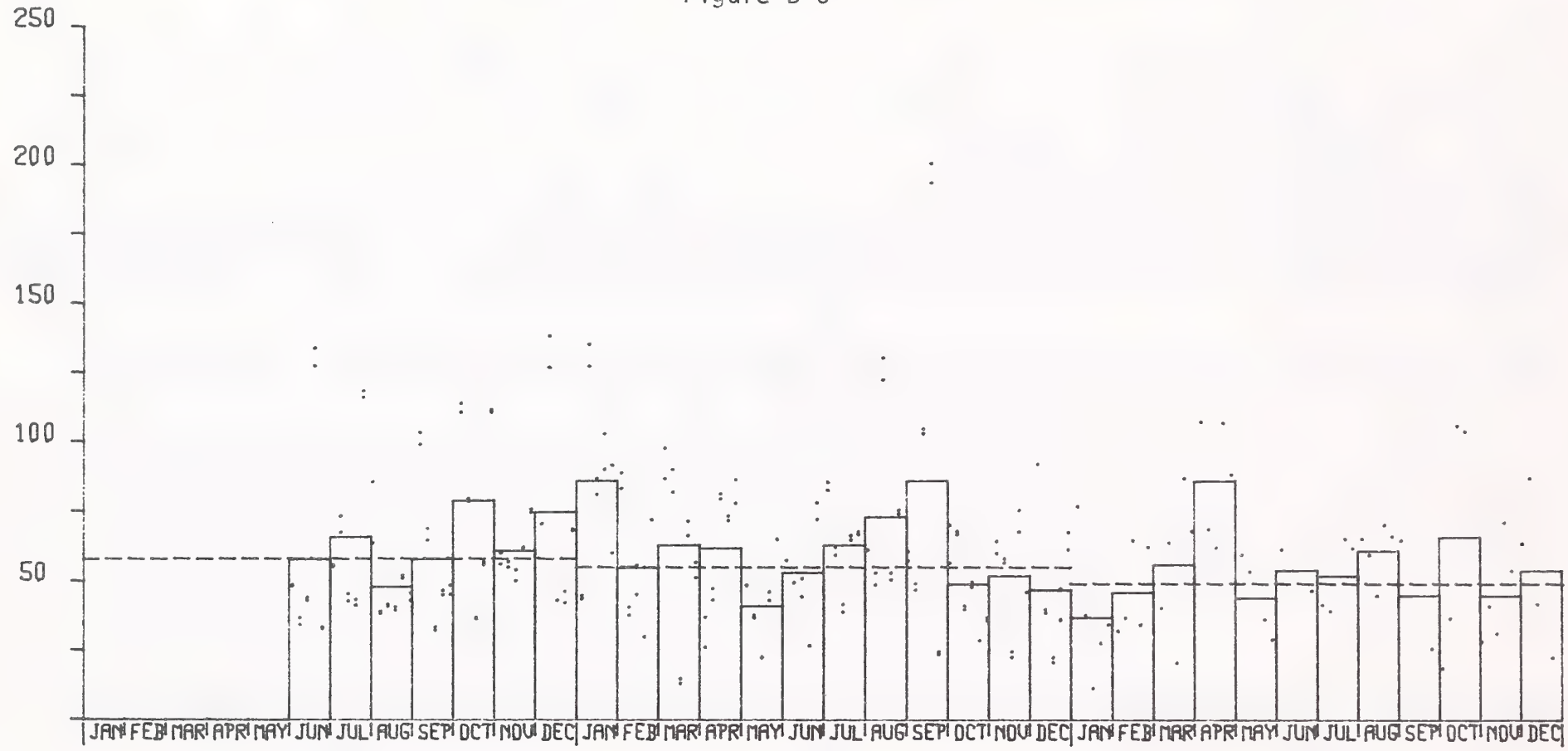
PARAMETER . . TOTAL SUSPENDED PARTICULATES
AREA. . . . . 0270, FLATHEAD CO
SITE. . . . . 005, ANDERS RESIDENCE
CITY. . . . . COLUMBIA FALLS

MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

Figure B-5


250
200
150
100
50
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1980
1981
1982

NUM OBS						10	10	12	10	10	10	8	10	10	10	10	9	8	10	10	10	11	10	9	5	5	5	5	4	2	4	5	2	4	5	4
MO.AVG						58	66	48	58	79	61	75	86	55	63	62	41	53	63	73	86	49	52	47	37	46	56	86	44	54	52	61	45	66	45	54
GEO.AVG	58												55												49											

PLOT. . . . . CONCENTRATION VERSUS TIME
METHOD . . . . . HI VOL
UNITS . . . . . MICROGRAMS/CUBIC METER
STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

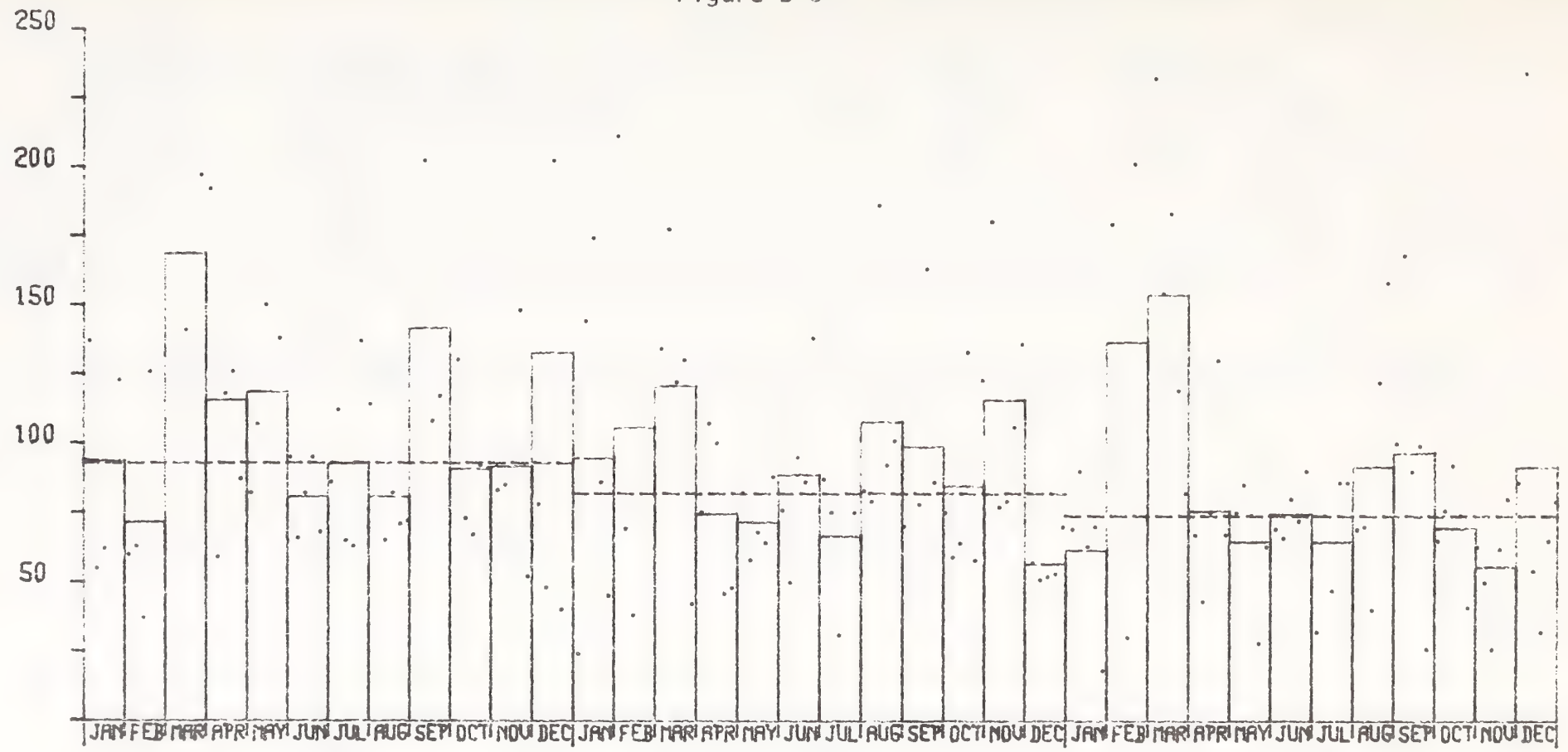
PARAMETER . . TOTAL SUSPENDED PARTICULATES
AREA. . . . . 0660, CASCADE CO
SITE. . . . . 017, DOWNTOWN
CITY. . . . . GREAT FALLS

MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

Figure B-6



NUM OBS	4	4	2	5	4	5	5	5	3	5	4	5	5	3	5	5	5	5	4	5	4	6	5	5	5	3	5	5	5	5	5	5	5	5	6
NO. AVG	94	72	169	116	119	81	93	81	142	91	92	133	95	106	121	75	72	89	67	108	99	85	116	57	62	137	154	76	65	75	65	92	97	70	56	92
GEO. AVG	93												82												74											

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES

AREA. . . . . 0800, FLATHEAD CO

SITE. . . . . 015, UNIVERSAL ATHLETIC

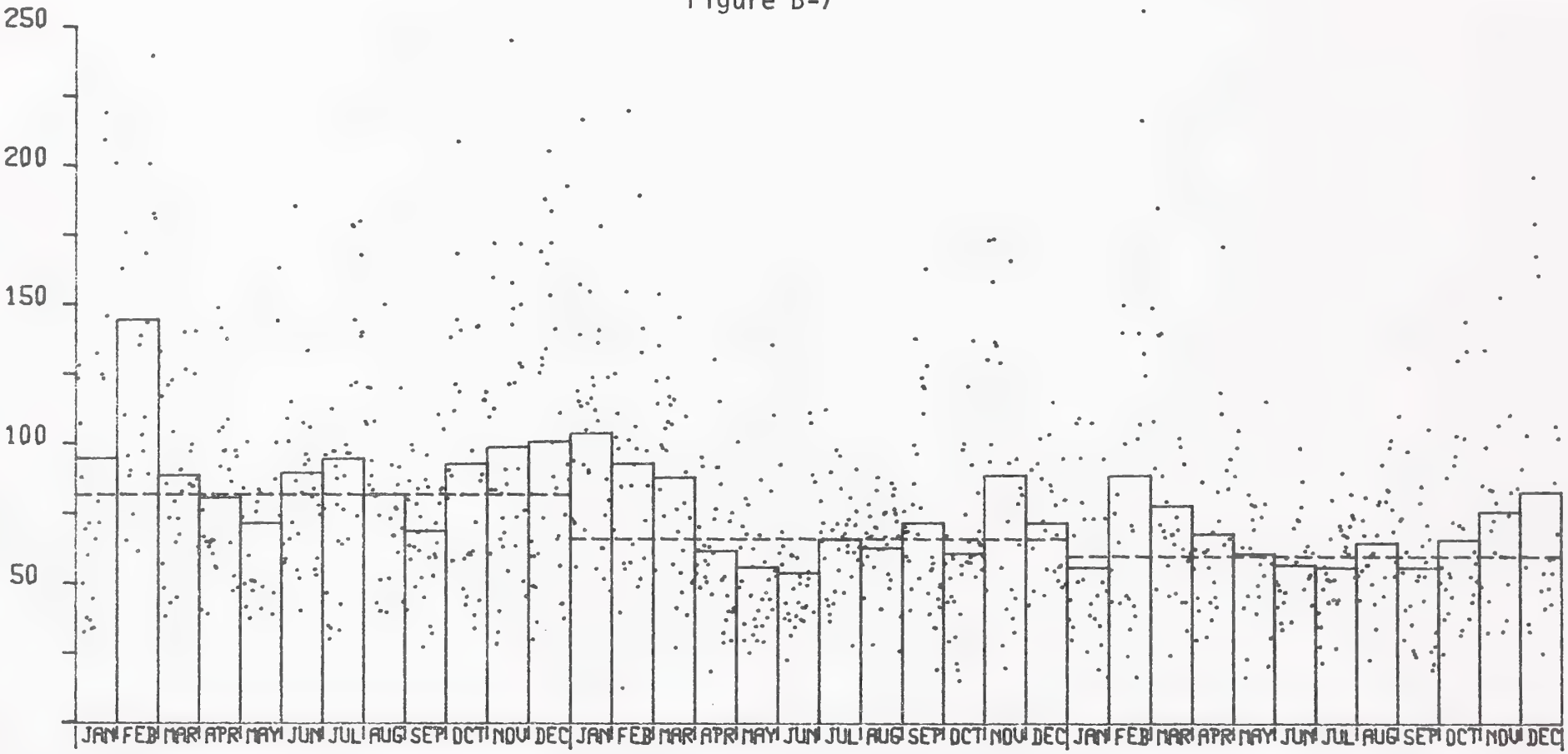
CITY. . . . . KALISPELL

MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

Figure B-7



NUM OBS	24	23	28	30	25	30	33	29	34	33	34	35	34	28	33	35	35	33	36	35	35	35	26	25	27	25	31	27	26	25	31	29	30	30	23	22
MO.AVG	95	145	89	81	72	90	95	82	69	93	99	101	104	93	88	62	56	54	66	63	72	61	89	72	56	89	78	68	61	57	56	65	56	66	76	83
GED.AVG	82												66												60											

PLOT. . . . . CONCENTRATION VERSUS TIME
METHOD . . . . . HI VOL
UNITS . . . . . MICROGRAMS/CUBIC METER
STANDARDS . . . (FEDERAL) ANNUAL - 75 UG/CU.M

PARAMETER . . TOTAL SUSPENDED PARTICULATES
AREA. . . . . 1100, MISSOULA CO
SITE. . . . . 001, COURTHOUSE ROOF
CITY. . . . . MISSOULA

MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

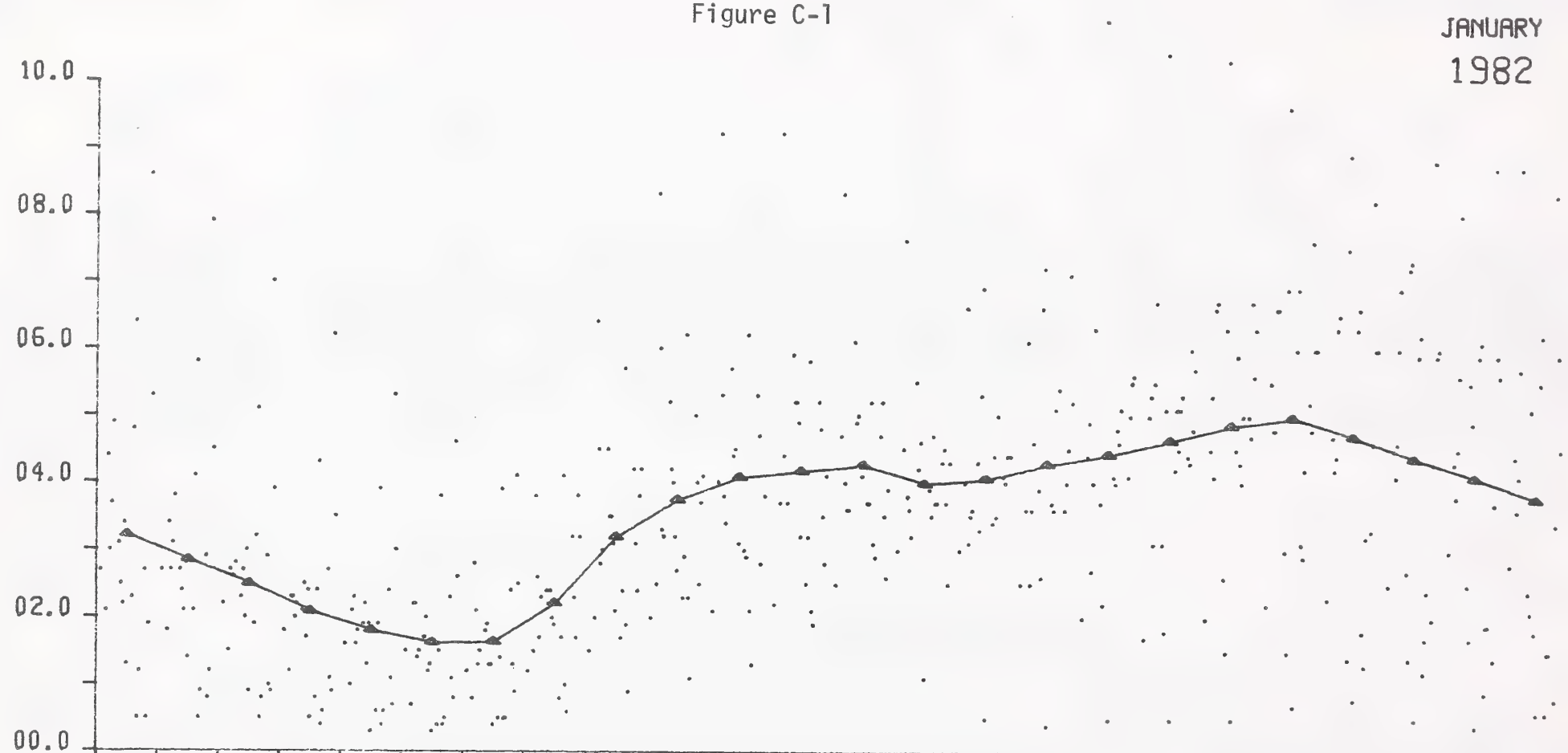
SECTION C

Yearly Plot

vs

CO ppm

Figure C-1



	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
NUM-OBS	21	21	21	21	21	21	21	21	21	21	20	20	20	20	19	20	20	21	21	21	20	21	21	21
1-HIGH	8.60	7.90	7.00	6.20	5.30	4.60	4.10	4.10	6.40	8.30	9.20	9.20	8.30	7.60	6.90	7.20	10.9	10.4	10.3	9.60	8.90	8.80	8.70	8.70
2-HIGH	6.40	5.80	5.10	4.30	3.90	3.80	3.90	3.80	5.70	6.20	6.20	5.90	6.10	5.50	6.60	7.10	6.30	6.70	6.70	7.60	8.20	7.30	8.00	8.30
MR.AVG	3.21	2.83	2.50	2.09	1.80	1.61	1.63	2.21	3.20	3.74	4.08	4.17	4.26	3.99	4.06	4.29	4.44	4.64	4.87	4.99	4.71	4.38	4.10	3.78

PLOT. . . . . CONCENTRATION VERSUS TIME (MON-FRI)
METHOD . . . . . NON-DISPERSIVE INFARED
UNITS . . . . . PARTS PER MILLION
STANDARDS . . . (FEDERAL) 9 PPM 8-HR / 35 PPM 1-HR

PARAMETER . . CARBON MONOXIDE
AREA. . . . . 1080, MISSOULA CO
SITE. . . . . 005, MALFUNCTION JCT SE
CITY. . . . . MISSOULA

MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

Figure C-2

JANUARY
1982

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
NUM-OBS	10	10	10	10	9	9	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
1-HIGH	12.6	12.3	11.7	9.90	7.80	6.10	5.30	5.60	6.20	7.20	7.60	7.70	8.00	7.80	7.50	6.60	6.90	7.90	8.80	10.0	11.9	12.7	12.7	12.4
2-HIGH	8.10	7.60	7.10	6.20	5.90	5.50	4.70	3.70	3.10	3.60	3.30	3.80	4.20	4.30	4.40	3.80	3.90	5.80	7.60	8.20	8.70	8.90	8.90	6.10
HR.AVG	4.59	4.20	3.87	3.25	2.68	2.24	1.94	1.79	1.90	2.21	2.37	2.63	3.05	3.13	3.18	2.99	3.32	3.70	4.03	4.20	4.48	4.61	4.53	4.40

PLOT. . . . . CONCENTRATION VERSUS TIME (SUN+SAT)
METHOD . . . . . NON-DISPERSIVE INFARED
UNITS . . . . . PARTS PER MILLION
STANDARDS . . . (FEDERAL) 9 PPM 8-HR / 35 PPM 1-HR

PARAMETER . . CARBON MONOXIDE
AREA. . . . . 1080, MISSOULA CO
SITE. . . . . 005, MALFUNCTION JCT SE
CITY. . . . . MISSOULA

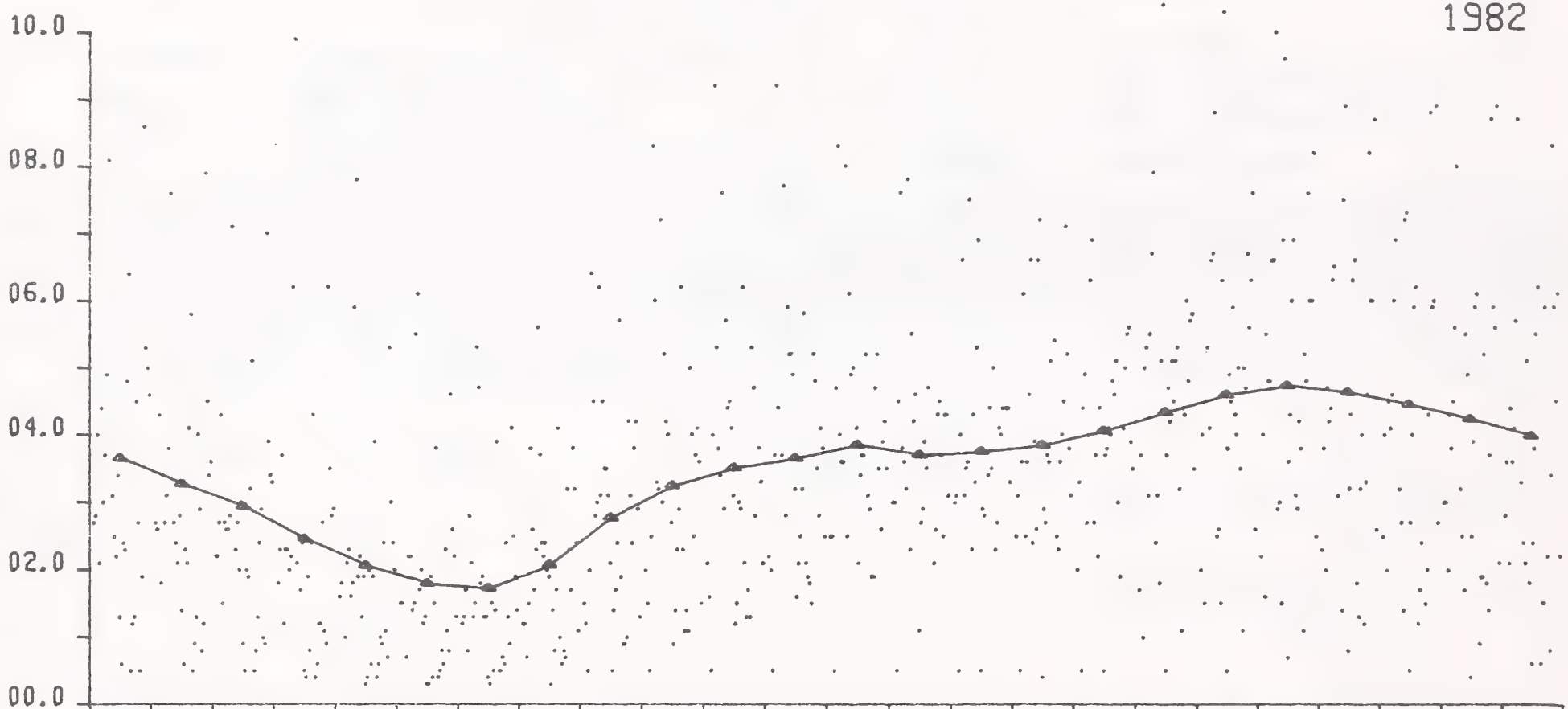
MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

Figure C-3

JANUARY
1982



	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
NUM-OBS	31	31	31	31	30	30	31	31	31	31	30	30	30	30	29	30	30	31	31	31	30	31	31	31
1-HIGH	12.6	12.3	11.7	9.90	7.80	6.10	5.30	5.60	6.40	8.30	9.20	9.20	8.30	7.80	7.50	7.20	10.9	10.4	10.3	10.0	11.9	12.7	12.7	12.4
2-HIGH	8.60	7.90	7.10	6.20	5.90	5.50	4.70	4.10	6.20	7.20	7.60	7.70	8.00	7.60	6.90	7.10	6.90	7.90	8.80	9.60	8.90	8.90	8.90	8.70
HR.AVG	3.65	3.27	2.94	2.46	2.07	1.80	1.73	2.07	2.78	3.25	3.51	3.66	3.86	3.70	3.76	3.85	4.06	4.34	4.60	4.73	4.63	4.45	4.24	3.98

PLOT. . . . . CONCENTRATION VERSUS TIME (MON-SUN)
METHOD . . . . . NON-DISPERSIVE INFARED
UNITS . . . . . PARTS PER MILLION
STANDARDS . . . (FEDERAL) 9 PPM 8-HR / 35 PPM 1-HR

PARAMETER . . CARBON MONOXIDE
AREA. . . . . 1080, MISSOULA CO
SITE. . . . . 005, MALFUNCTION JCT SE
CITY. . . . . MISSOULA

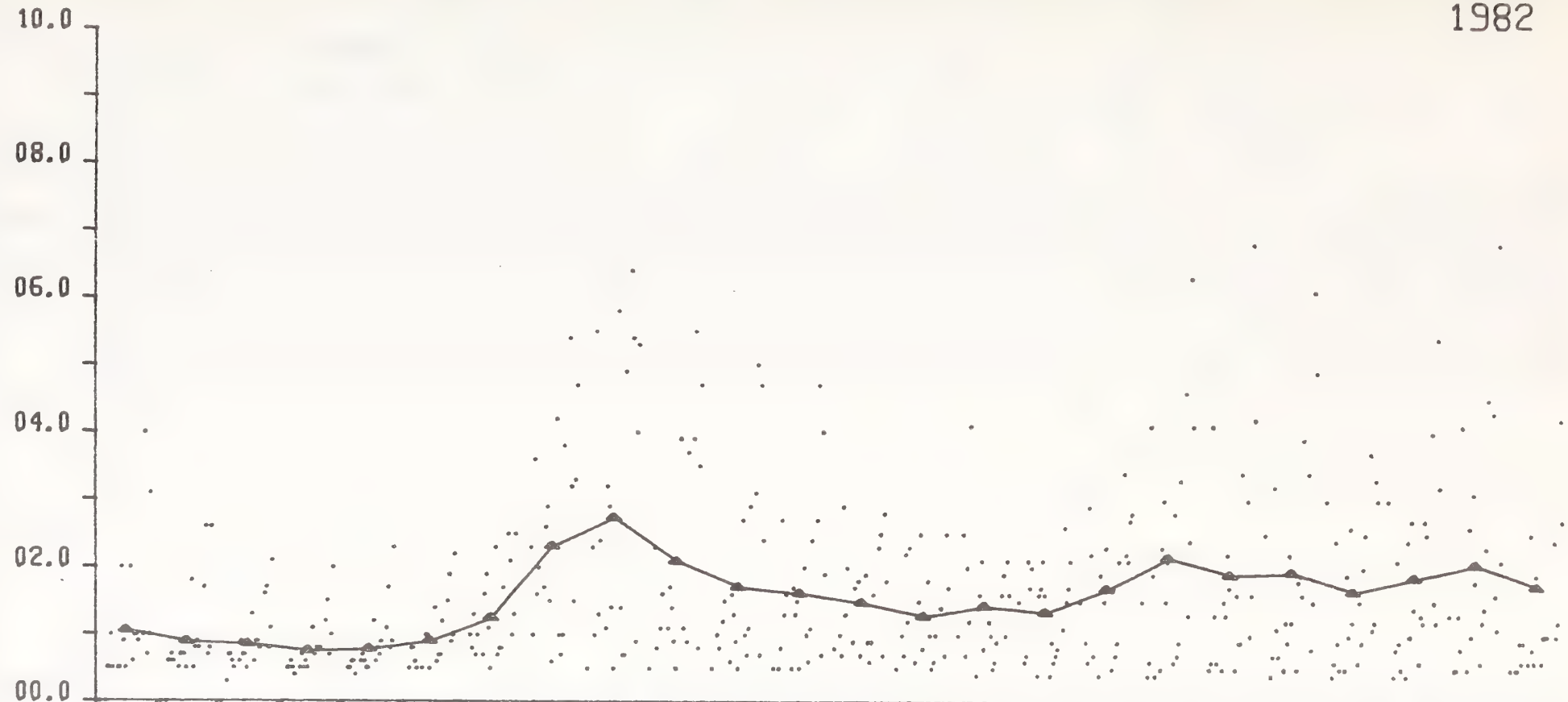
MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

Figure C-4

JANUARY
1982



	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
NUM-OBS	21	21	21	21	21	21	21	21	21	19	20	21	21	19	21	21	21	21	20	21	21	21	21	21
1-HIGH	4.00	2.60	2.10	2.00	2.30	2.20	2.50	5.40	6.40	5.50	5.00	4.70	2.90	2.50	4.10	2.60	3.40	6.30	6.80	6.10	3.70	5.40	6.80	11.2
2-HIGH	3.10	2.60	1.70	1.50	1.70	1.90	2.50	4.70	5.80	4.70	4.70	4.00	2.80	2.50	2.50	2.10	2.90	4.60	4.20	4.90	3.30	4.00	4.50	4.20
HR.AVG	1.05	.895	.857	.757	.786	.914	1.25	2.31	2.74	2.10	1.71	1.61	1.49	1.28	1.43	1.35	1.70	2.15	1.91	1.95	1.65	1.86	2.06	1.74

PLOT. . . . . CONCENTRATION VERSUS TIME (MON-FRI)
METHOD . . . . . NON-DISPERSIVE INFARED
UNITS . . . . . PARTS PER MILLION
STANDARDS . . . (FEDERAL) 9 PPM 8-HR / 35 PPM 1-HR

PARAMETER . . CARBON MONOXIDE
AREA. . . . . 0080, YELLOWSTONE CO
SITE. . . . . 061, FAIRGROUNDS (METRA)
CITY. . . . . BILLINGS

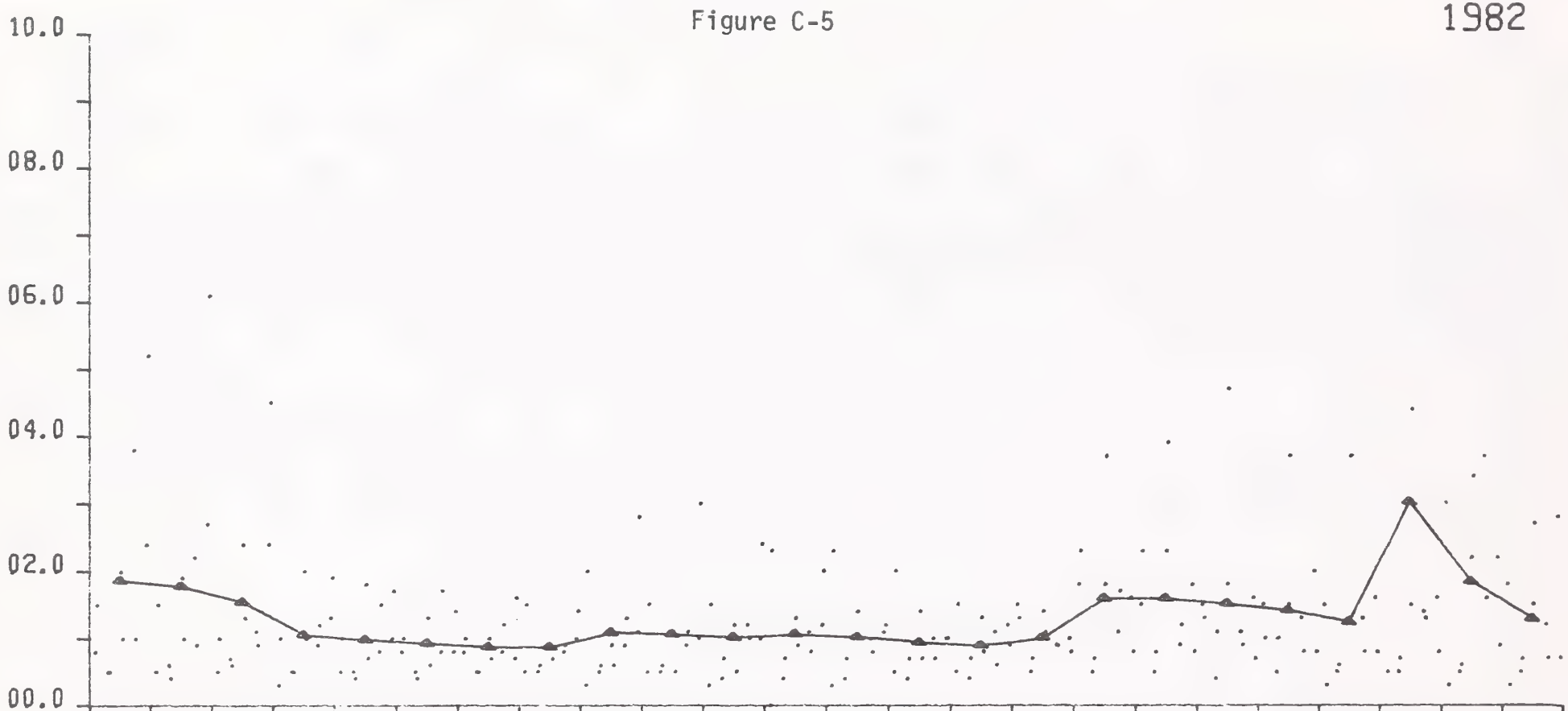
MONTANA STATE AIR QUALITY BUREAU

APRIL 1893

TECHNICAL SERVICES

JANUARY
1982

Figure C-5



	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
NUM-OBS	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
1-HIGH	5.20	6.10	4.50	2.00	1.80	1.70	1.60	1.50	2.80	3.00	2.40	2.30	2.30	2.00	1.50	1.50	3.70	3.90	4.70	3.70	3.70	17.5	3.70	2.80
2-HIGH	3.80	2.70	2.40	1.90	1.70	1.40	1.20	1.40	2.00	1.50	1.50	2.00	1.40	1.40	1.30	1.40	2.30	2.30	1.80	2.00	1.60	4.40	3.40	2.70
HR.AVG	1.87	1.78	1.54	1.06	.990	.930	.880	.880	1.10	1.07	1.02	1.07	1.02	.940	.900	1.01	1.60	1.60	1.51	1.41	1.24	3.02	1.84	1.29

PLOT. . . . . CONCENTRATION VERSUS TIME (SUN+SAT)
METHOD . . . . . NON-DISPERSIVE INFARED
UNITS . . . . . PARTS PER MILLION
STANDARDS . . . (FEDERAL) 9 PPM 8-HR / 35 PPM 1-HR

PARAMETER . . CARBON MONOXDE
AREA. . . . . 0080, YELLOWSTONE CO
SITE. . . . . 061, FAIRGROUNDS (METRA)
CITY. . . . . BILLINGS

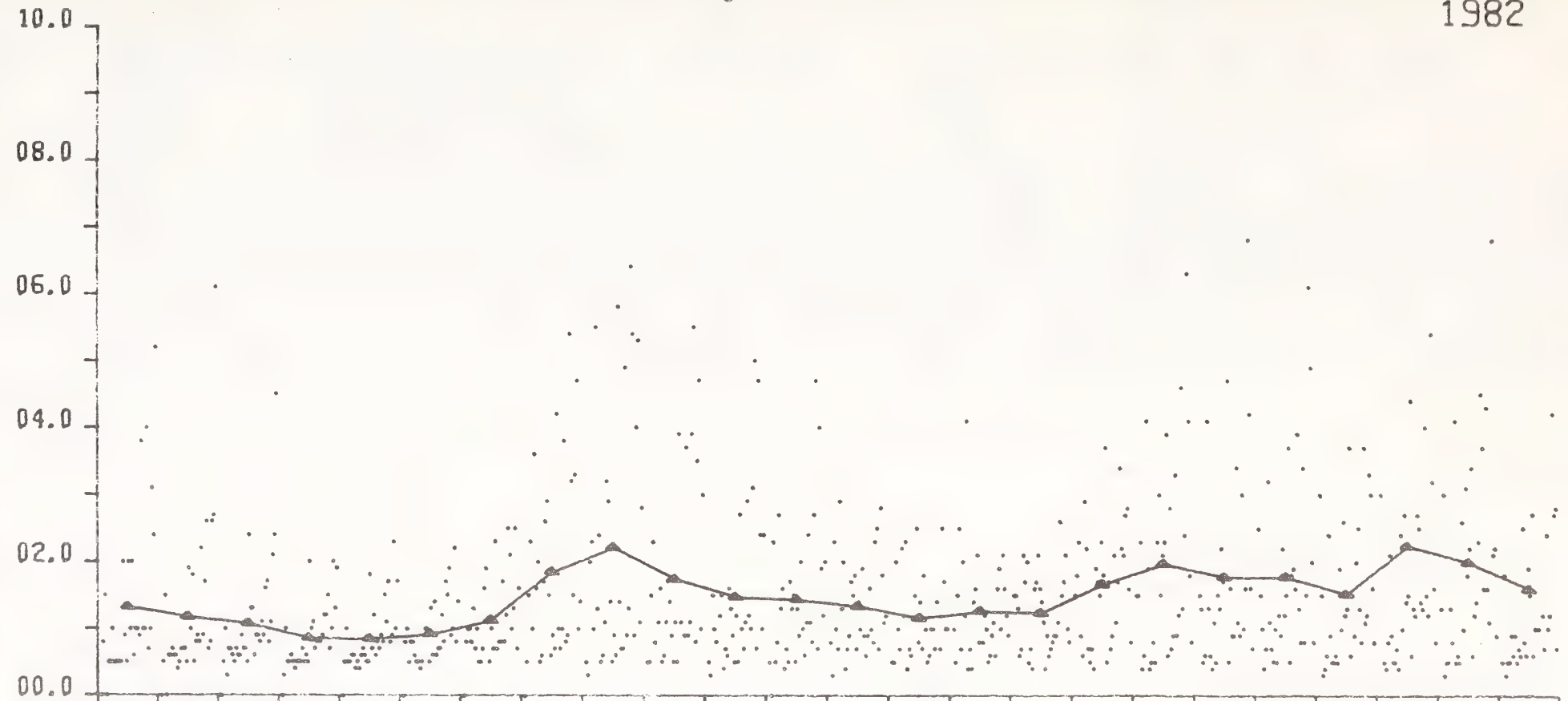
MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

Figure C-6

JANUARY
1982



	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
NUM-OBS	31	31	31	31	31	31	31	31	31	29	30	31	31	29	31	31	31	31	30	31	31	31	31	31
1-HIGH	5.20	6.10	4.50	2.00	2.30	2.20	2.50	5.40	6.40	5.50	5.00	4.70	2.90	2.50	4.10	2.60	3.70	6.30	6.80	6.10	3.70	17.5	6.80	11.2
2-HIGH	4.00	2.70	2.40	2.00	1.80	1.90	2.50	4.70	5.80	4.70	4.70	4.00	2.80	2.50	2.50	2.10	3.40	4.60	4.70	4.90	3.70	5.40	4.50	4.20
HR.AVG	1.31	1.18	1.07	.855	.852	.919	1.13	1.85	2.21	1.74	1.48	1.44	1.33	1.16	1.26	1.24	1.66	1.97	1.77	1.77	1.52	2.23	1.99	1.59

PLOT. . . . . CONCENTRATION VERSUS TIME (MON-SUN)
METHOD . . . . . NON-DISPERSIVE INFARED
UNITS . . . . . PARTS PER MILLION
STANDARDS . . . (FEDERAL) 9 PPM 8-HR / 35 PPM 1-HR

PARAMETER . . CARBON MONOXIDE
AREA. . . . . 0080, YELLOWSTONE CO
SITE. . . . . 061, FAIRGROUNDS (METRA)
CITY. . . . . BILLINGS

MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

Figure C-7

DECEMBER
1982

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
NUM-OBS	31	31	31	31	30	30	30	30	30	30	29	31	31	31	31	31	31	31	31	31	31	31	31	31
1-HIGH	4.10	3.30	3.40	3.20	2.80	2.20	1.80	3.50	5.20	5.90	4.70	3.30	3.20	2.50	2.50	3.10	4.50	6.00	5.60	6.00	5.20	4.70	4.00	3.60
2-HIGH	3.70	3.20	2.40	2.00	1.90	1.80	1.80	3.30	4.30	5.30	3.90	3.20	2.90	2.40	2.50	2.70	3.40	5.60	5.10	5.90	4.40	4.00	3.60	3.40
HR.AVG	.994	.865	.765	.597	.533	.507	.667	1.26	1.62	1.57	1.44	1.21	1.17	1.07	1.13	1.38	1.83	2.23	1.81	1.71	1.50	1.31	1.25	1.07

PLOT. . . . . CONCENTRATION VERSUS TIME (MON-SUN)
METHOD . . . . . NON-DISPERSIVE INFARED
UNITS . . . . . PARTS PER MILLION
STANDARDS . . . (FEDERAL) 9 PPM 8-HR / 35 PPM 1-HR

PARAMETER . . CARBON MONOXIDE
AREA. . . . . 0660, CASCADE CO
SITE. . . . . 021, GREAT FALLS FEDERAL
CITY. . . . . GREAT FALLS

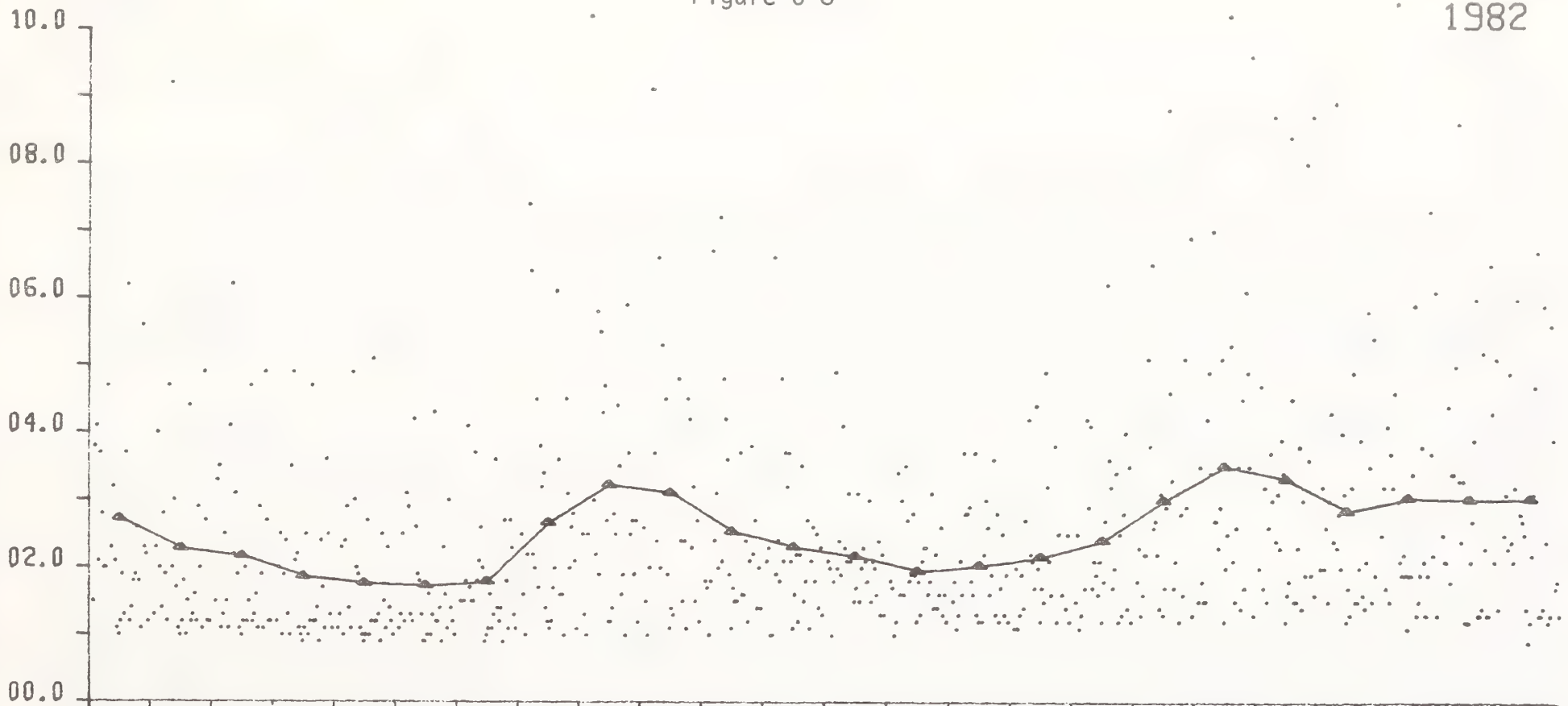
MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

Figure C-8

JANUARY
1982



	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
NUM-OBS	31	31	31	31	31	31	31	31	31	29	30	31	30	31	30	27	30	30	31	31	31	31	31	31
1-HIGH	10.5	9.20	6.20	4.90	5.10	4.30	4.10	7.40	10.5	9.10	7.20	6.60	4.90	3.50	3.70	4.90	6.20	8.80	10.2	8.70	8.90	10.4	8.60	10.6
2-HIGH	6.20	4.90	4.90	4.70	4.90	4.20	3.70	6.40	10.2	9.10	6.70	4.80	4.10	3.40	3.70	4.40	4.20	6.90	9.60	8.70	5.80	7.30	6.50	6.70
HR.AVG	2.71	2.28	2.16	1.86	1.77	1.73	1.80	2.66	3.23	3.11	2.54	2.31	2.17	1.95	2.04	2.16	2.41	3.00	3.51	3.31	2.85	3.05	3.03	3.04

PLOT. . . . . CONCENTRATION VERSUS TIME (MON-SUN)
METHOD . . . . . NON-DISPERSIVE INFARED
UNITS . . . . . PARTS PER MILLION
STANDARDS . . . (FEDERAL) 9 PPM 8-HR / 35 PPM 1-HR

PARAMETER . . CARBON MONOXIDE
AREA. . . . . 1100, MISSOULA CO
SITE. . . . . 024, BOYD PARK
CITY. . . . . MISSOULA

MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

SECTION D

Monthly Plot

vs

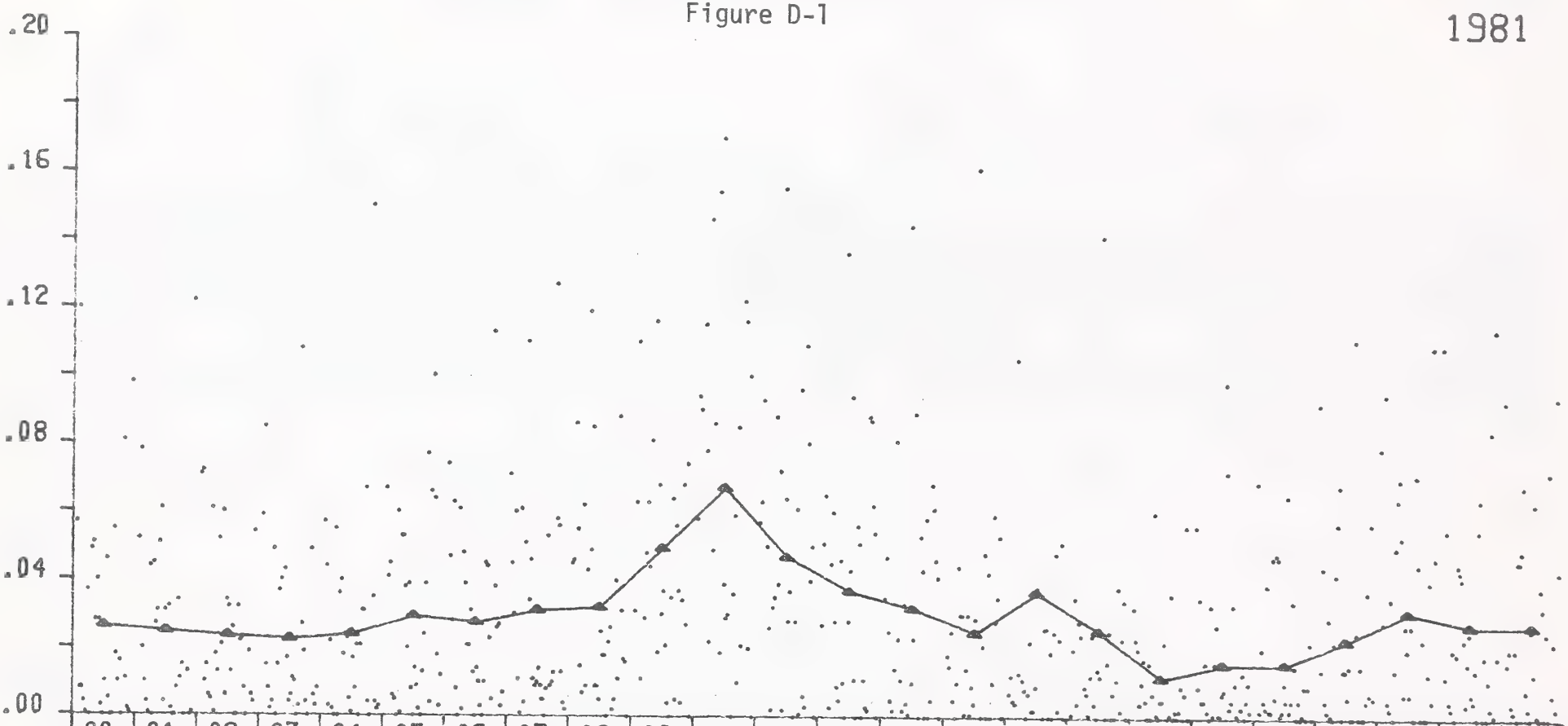
SO_2 ppm

Selected Month

1983

Figure D-1

NOVEMBER
1981



	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
NUM-OBS	30	29	29	29	30	30	30	30	30	29	26	28	29	29	29	29	29	29	30	30	30	30	30	30
1-HIGH	.120	.122	.072	.108	.150	.100	.113	.127	.119	.250	.170	.155	.136	.144	.161	.334	.245	.060	.098	.069	.111	.109	.114	.094
2-HIGH	.098	.078	.071	.085	.067	.077	.074	.110	.088	.116	.154	.109	.094	.089	.059	.266	.141	.056	.072	.065	.092	.095	.109	.093
HR.AVG	.026	.025	.024	.023	.024	.029	.027	.031	.032	.049	.067	.047	.037	.032	.025	.037	.025	.012	.016	.016	.023	.031	.027	.027

PLOT. . . . . CONCENTRATION VERSUS TIME (MON-SUN)
METHOD . . . . . PULSED FLUORESCENT
UNITS . . . . . PARTS PER MILLION
STANDARDS . . . (STATE) .50 PPM 1-HR AVG

PARAMETER . . SULFUR DIOXIDE
AREA. . . . . 0080, YELLOWSTONE CO
SITE. . . . . 065, LOCKWOOD PARK
CITY. . . . . BILLINGS

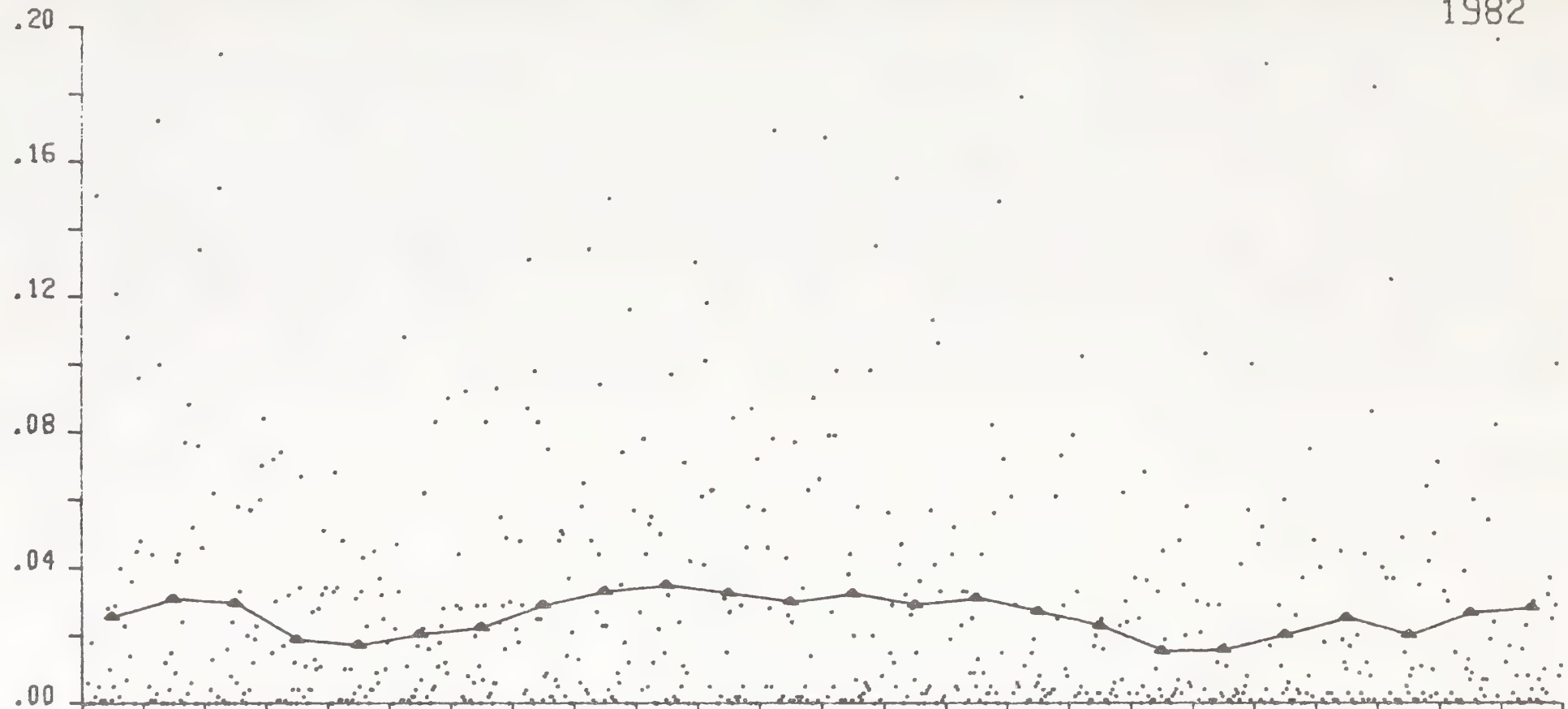
MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

Figure D-2

JANUARY
1982



	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
NUM-OBS	31	31	31	31	31	31	31	31	31	31	28	28	28	30	31	31	30	31	31	31	31	31	31	31
1-HIGH	.150	.172	.192	.074	.068	.108	.093	.131	.149	.257	.118	.169	.167	.155	.249	.267	.211	.068	.103	.189	.243	.125	.213	.261
2-HIGH	.121	.134	.152	.072	.048	.090	.092	.098	.134	.130	.101	.090	.135	.113	.148	.179	.102	.058	.100	.075	.182	.071	.196	.225
HR.AVG	.026	.031	.030	.019	.017	.021	.023	.029	.033	.035	.033	.030	.033	.029	.031	.027	.023	.016	.016	.020	.025	.020	.027	.028

PLOT. . . . . CONCENTRATION VERSUS TIME (MON-SUN)
METHOD . . . . . PULSED FLUORESCENT
UNITS . . . . . PARTS PER MILLION
STANDARDS . . . (STATE) .50 PPM 1-HR AVG

PARAMETER . . SULFUR DIOXIDE
AREA. . . . . 0080, YELLOWSTONE CO
SITE. . . . . 065, LOCKWOOD PARK
CITY. . . . . BILLINGS

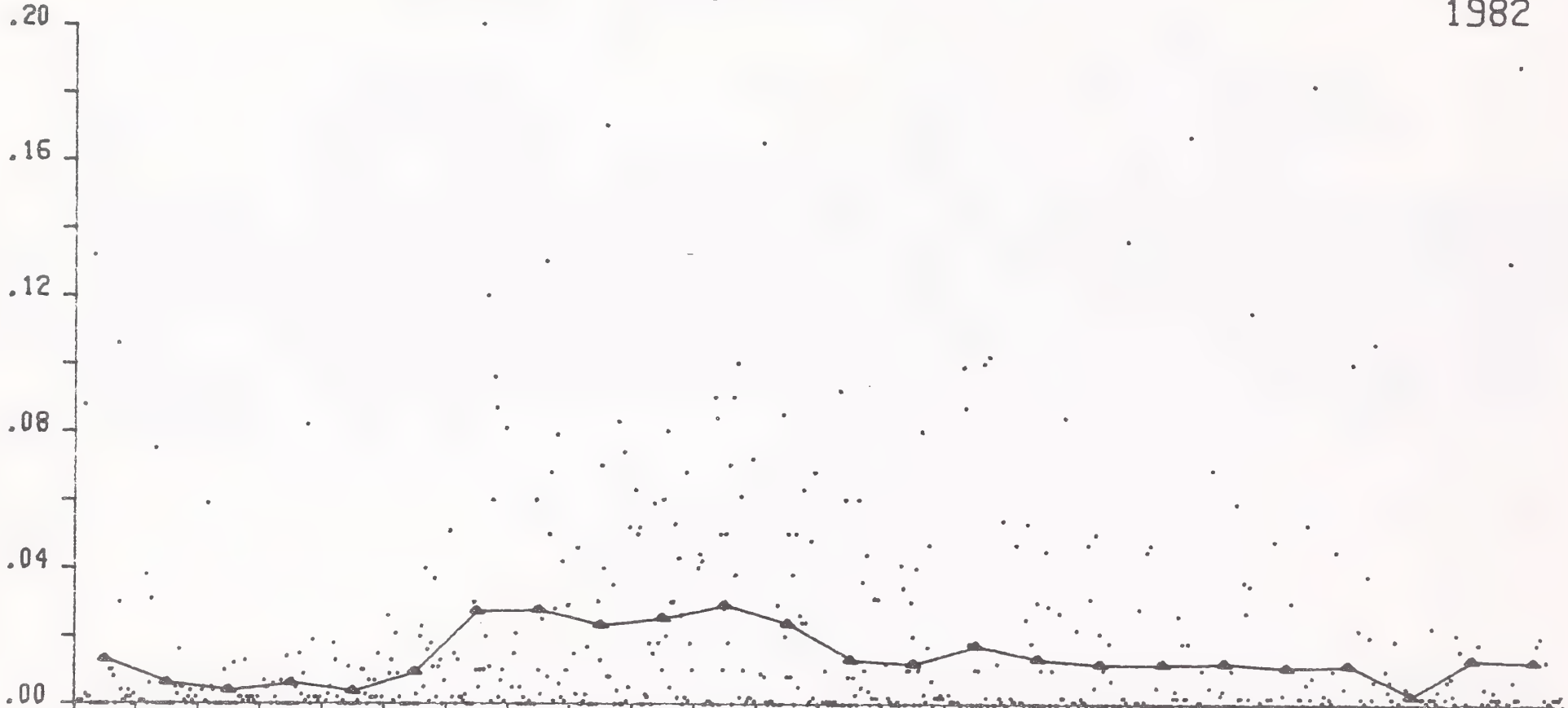
MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

Figure D-3

MAY
1982



	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
NUM-OBS	31	31	31	30	30	31	31	30	29	30	31	31	31	31	29	29	30	31	31	31	31	31	31	31
1-HIGH	.132	.075	.059	.082	.018	.040	.200	.230	.170	.080	.100	.165	.092	.080	.102	.084	.136	.167	.115	.182	.106	.023	.322	.188
2-HIGH	.106	.038	.013	.019	.015	.037	.120	.130	.083	.068	.090	.085	.060	.047	.100	.053	.050	.047	.069	.053	.100	.019	.021	.130
HR.AVG	.013	.006	.004	.006	.004	.010	.027	.028	.023	.025	.029	.024	.013	.012	.017	.013	.012	.012	.012	.011	.012	.003	.013	.013

PLOT. . . . . CONCENTRATION VERSUS TIME (MON-SUN)
METHOD . . . . . PULSED FLUORESCENT
UNITS . . . . . PARTS PER MILLION
STANDARDS . . . (STATE) .50 PPM 1-HR AVG

PARAMETER . . SULFUR DIOXIDE
AREA. . . . . 0080, YELLOWSTONE CO
SITE. . . . . 065, LOCKWOOD PARK
CITY. . . . . BILLINGS

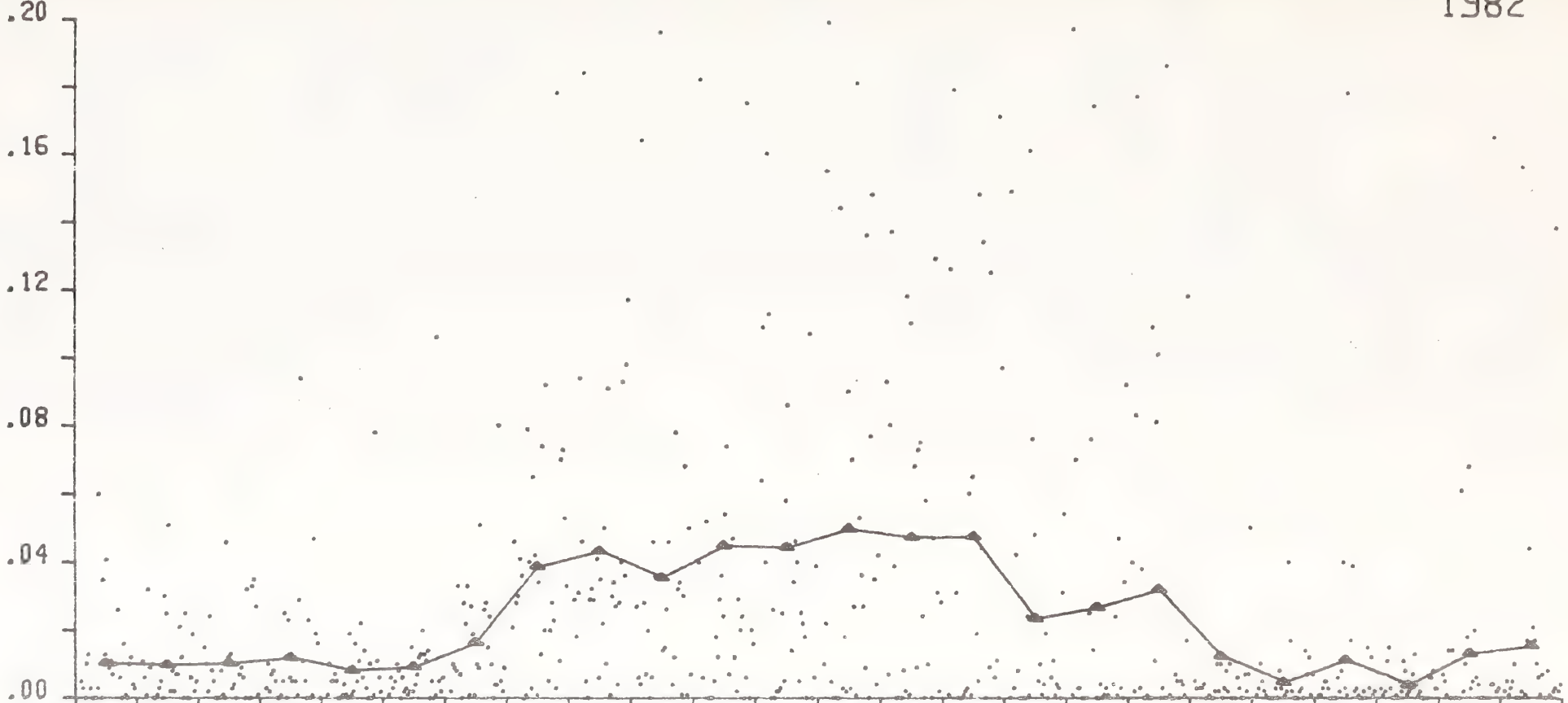
MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

Figure D-4

AUGUST
1982



	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
NUM-OBS	30	30	30	30	30	30	30	30	29	28	30	30	30	29	26	28	29	31	31	31	31	31	31	31
1-HIGH	.060	.051	.046	.094	.078	.106	.080	.178	.184	.196	.242	.239	.199	.226	.179	.161	.197	.186	.243	.040	.178	.015	.165	.156
2-HIGH	.041	.032	.035	.047	.022	.020	.051	.092	.117	.164	.218	.160	.181	.137	.171	.149	.174	.177	.050	.017	.040	.013	.068	.138
HR.AVG	.010	.010	.010	.012	.008	.009	.016	.039	.043	.035	.045	.044	.050	.047	.048	.024	.027	.032	.012	.005	.011	.004	.013	.016

PLOT. . . . . CONCENTRATION VERSUS TIME (MON-SUN)
METHOD . . . . . PULSED FLUORESCENT
UNITS . . . . . PARTS PER MILLION
STANDARDS . . . (STATE) .50 PPM 1-HR AVG

PARAMETER . . SULFUR DIOXIDE
AREA. . . . . 0080, YELLOWSTONE CO
SITE. . . . . 065, LOCKWOOD PARK
CITY. . . . . BILLINGS

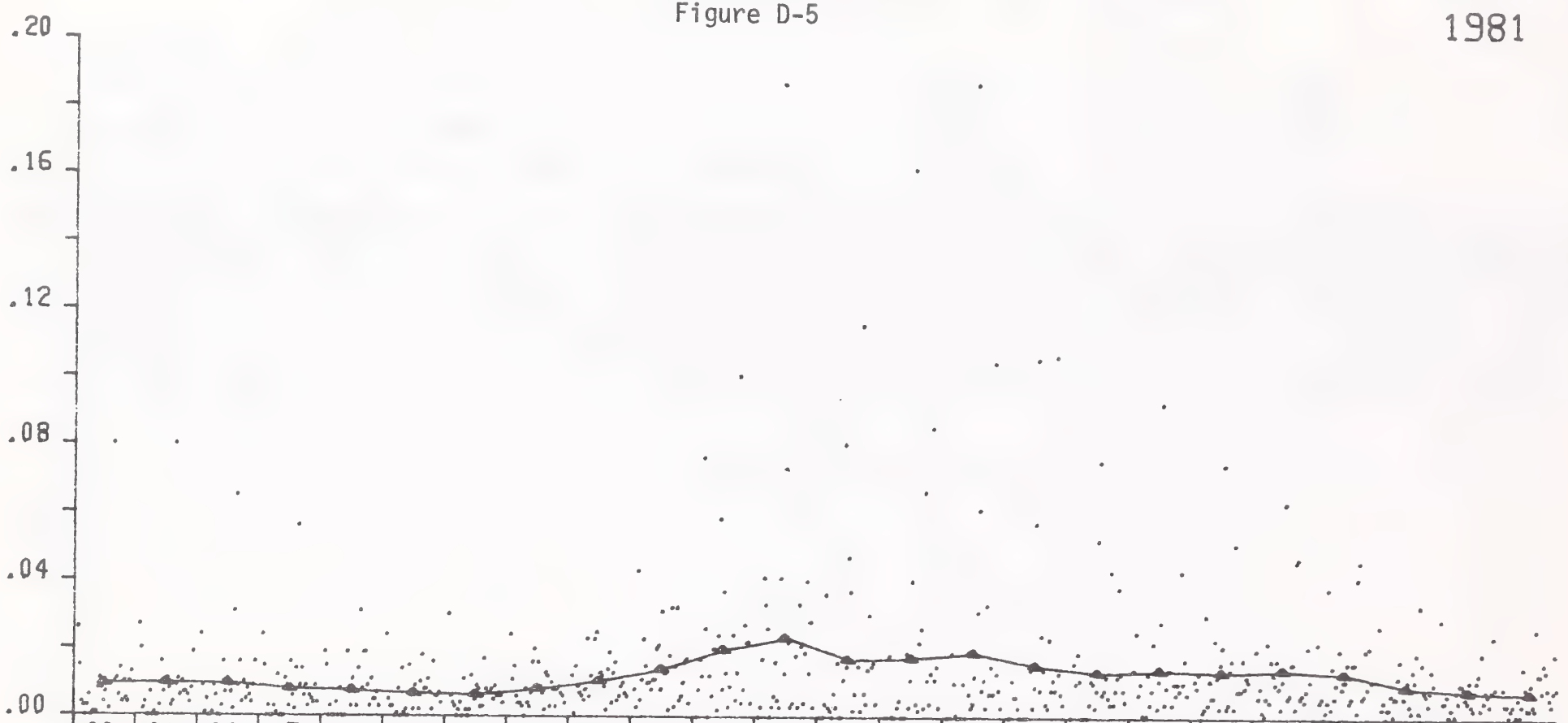
MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

Figure D-5

NOVEMBER
1981



	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
NUM-OBS	30	30	30	30	30	30	30	30	30	30	29	29	29	30	29	29	29	30	30	30	30	30	30	30
1-HIGH	.080	.080	.065	.056	.031	.024	.030	.024	.025	.043	.100	.186	.115	.161	.186	.106	.075	.092	.074	.063	.046	.033	.029	.026
2-HIGH	.026	.027	.031	.024	.019	.018	.017	.020	.023	.032	.076	.073	.080	.085	.104	.105	.052	.043	.051	.047	.041	.027	.024	.019
HR.AVG	.009	.010	.010	.008	.008	.007	.006	.008	.011	.014	.020	.023	.017	.017	.019	.015	.013	.014	.014	.014	.013	.009	.008	.008

PLOT. . . . . CONCENTRATION VERSUS TIME (MON-SUN)
METHOD . . . . . PULSED FLUORESCENT
UNITS . . . . . PARTS PER MILLION
STANDARDS . . . (STATE) .50 PPM 1-HR AVG

PARAMETER . . SULFUR DIOXIDE
AREA. . . . . 0080, YELLOWSTONE CO
SITE. . . . . 062, TAFT SCHOOL
CITY. . . . . BILLINGS

MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

Figure D-6

JANUARY
1982

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
NUM-OBS	31	31	31	31	31	31	31	30	29	29	29	29	30	31	30	29	30	31	31	31	31	31	31	31
1-HIGH	.091	.090	.124	.147	.130	.080	.118	.076	.125	.090	.088	.127	.134	.127	.141	.091	.095	.059	.040	.131	.080	.073	.071	.143
2-HIGH	.066	.072	.093	.140	.088	.071	.100	.076	.085	.081	.088	.074	.105	.096	.085	.081	.074	.055	.038	.050	.067	.044	.068	.090
HR.AVG	.025	.021	.023	.036	.029	.023	.027	.021	.025	.023	.022	.026	.027	.030	.022	.022	.020	.017	.013	.016	.019	.017	.021	.025

PLOT. . . . . CONCENTRATION VERSUS TIME (MON-SUN)
METHOD . . . . . PULSED FLUORESCENT
UNITS . . . . . PARTS PER MILLION
STANDARDS . . . (STATE) .50 PPM 1-HR AVG

PARAMETER . . SULFUR DIOXIDE
AREA. . . . . 0080, YELLOWSTONE CO
SITE. . . . . 062, TAFT SCHOOL
CITY. . . . . BILLINGS

MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

Figure D-7

MAY
1982

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
NUM-OBS	25	25	25	25	25	25	24	23	23	23	22	22	22	23	24	24	24	24	24	24	24	24	24	24
1-HIGH	.043	.007	.004	.027	.045	.029	.025	.027	.154	.193	.156	.150	.155	.139	.089	.035	.043	.046	.059	.160	.017	.029	.011	.017
2-HIGH	.004	.003	.003	.019	.010	.012	.017	.018	.025	.035	.052	.057	.059	.016	.027	.024	.035	.015	.028	.031	.015	.015	.004	.008
HR.AVG	.002	.001	.001	.003	.004	.003	.004	.005	.012	.015	.016	.012	.014	.010	.008	.005	.007	.005	.005	.010	.003	.004	.002	.002

PLOT. . . . . CONCENTRATION VERSUS TIME (MON-SUN)
METHOD . . . . . PULSED FLUORESCENT
UNITS . . . . . PARTS PER MILLION
STANDARDS . . . (STATE) .50 PPM 1-HR AVG

PARAMETER . . SULFUR DIOXIDE
AREA. . . . . 0080, YELLOWSTONE CO
SITE. . . . . 062, TAFT SCHOOL
CITY. . . . . BILLINGS

MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

Figure D-8

AUGUST
1982

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
NUM-OBS	20	20	20	20	20	20	20	19	19	20	20	19	20	20	19	18	19	20	20	20	20	20	20	20
1-HIGH	.034	.071	.094	.059	.046	.051	.076	.062	.152	.066	.074	.052	.070	.078	.060	.054	.042	.061	.109	.067	.047	.033	.048	.028
2-HIGH	.028	.023	.011	.024	.024	.015	.037	.030	.068	.056	.031	.035	.050	.055	.053	.050	.035	.026	.041	.032	.031	.025	.037	.026
HR.AVG	.007	.009	.008	.007	.006	.006	.010	.014	.026	.017	.013	.010	.016	.018	.021	.020	.012	.012	.016	.011	.011	.011	.011	.008

PLOT. . . . . CONCENTRATION VERSUS TIME (MON-SUN)
METHOD . . . . . PULSED FLUORESCENT
UNITS . . . . . PARTS PER MILLION
STANDARDS . . . (STATE) .50 PPM 1-HR AVG

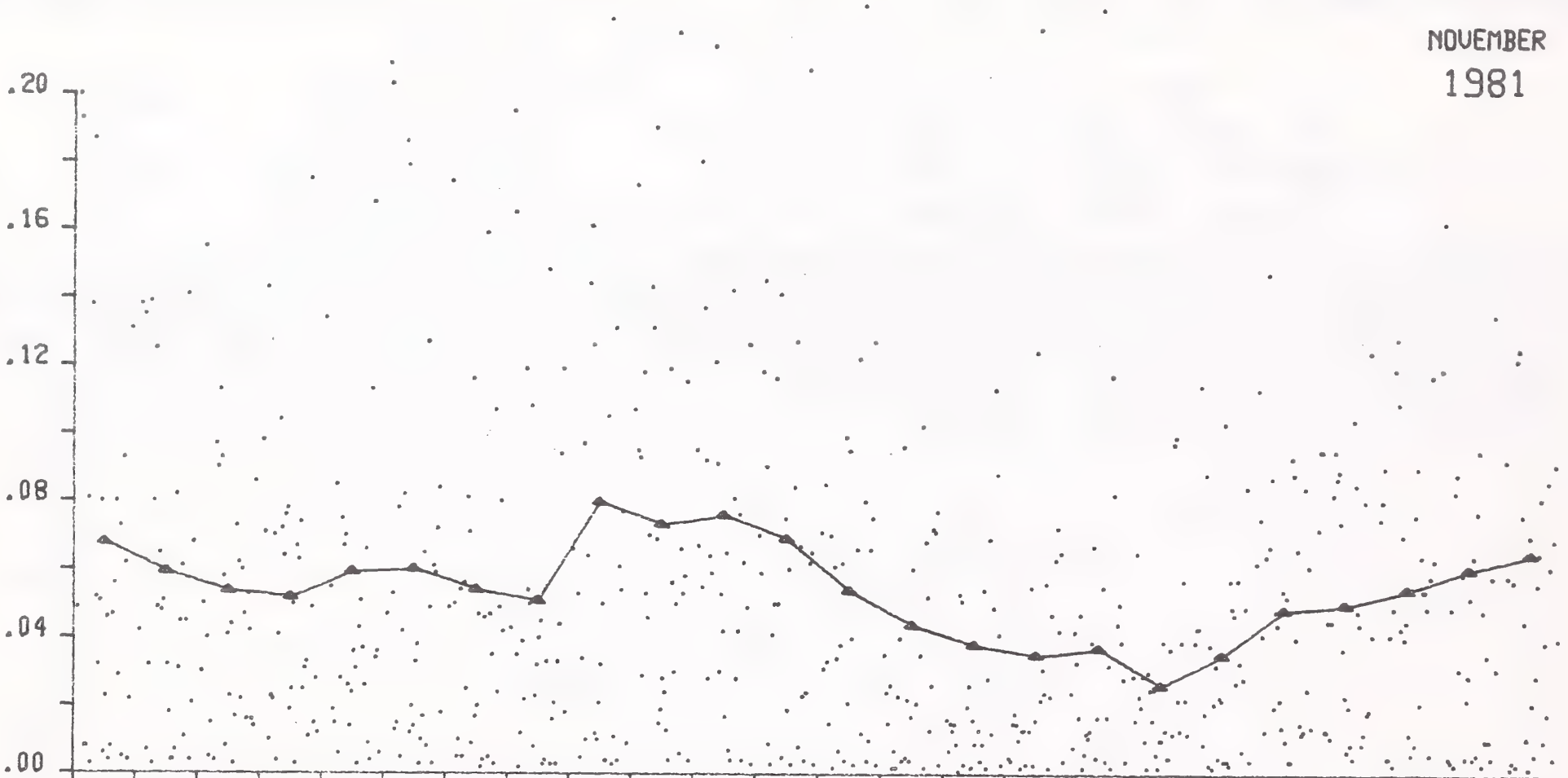
PARAMETER . . SULFUR DIOXIDE
AREA. . . . . 0080, YELLOWSTONE CO
SITE. . . . . 062, TAFT SCHOOL
CITY. . . . . BILLINGS

MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

Figure D-9



	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
NUM-OBS	30	30	30	30	30	30	30	30	30	30	30	29	29	29	29	28	29	30	30	30	30	30	30	30
1-HIGH	.265	.235	.235	.175	.255	.209	.230	.195	.305	.218	.245	.275	.226	.350	.365	.219	.225	.099	.114	.147	.124	.128	.283	.333
2-HIGH	.200	.141	.155	.143	.244	.203	.174	.165	.264	.190	.214	.207	.127	.102	.113	.124	.117	.097	.103	.113	.104	.119	.239	.265
HR.AVG	.068	.059	.054	.052	.059	.060	.054	.051	.080	.073	.076	.069	.054	.044	.038	.035	.037	.026	.035	.048	.050	.055	.060	.065

PLOT. . . . . CONCENTRATION VERSUS TIME (MON-SUN)
METHOD . . . . . PULSED FLUORESCENT
UNITS . . . . . PARTS PER MILLION
STANDARDS . . . (STATE) .50 PPM 1-HR AVG

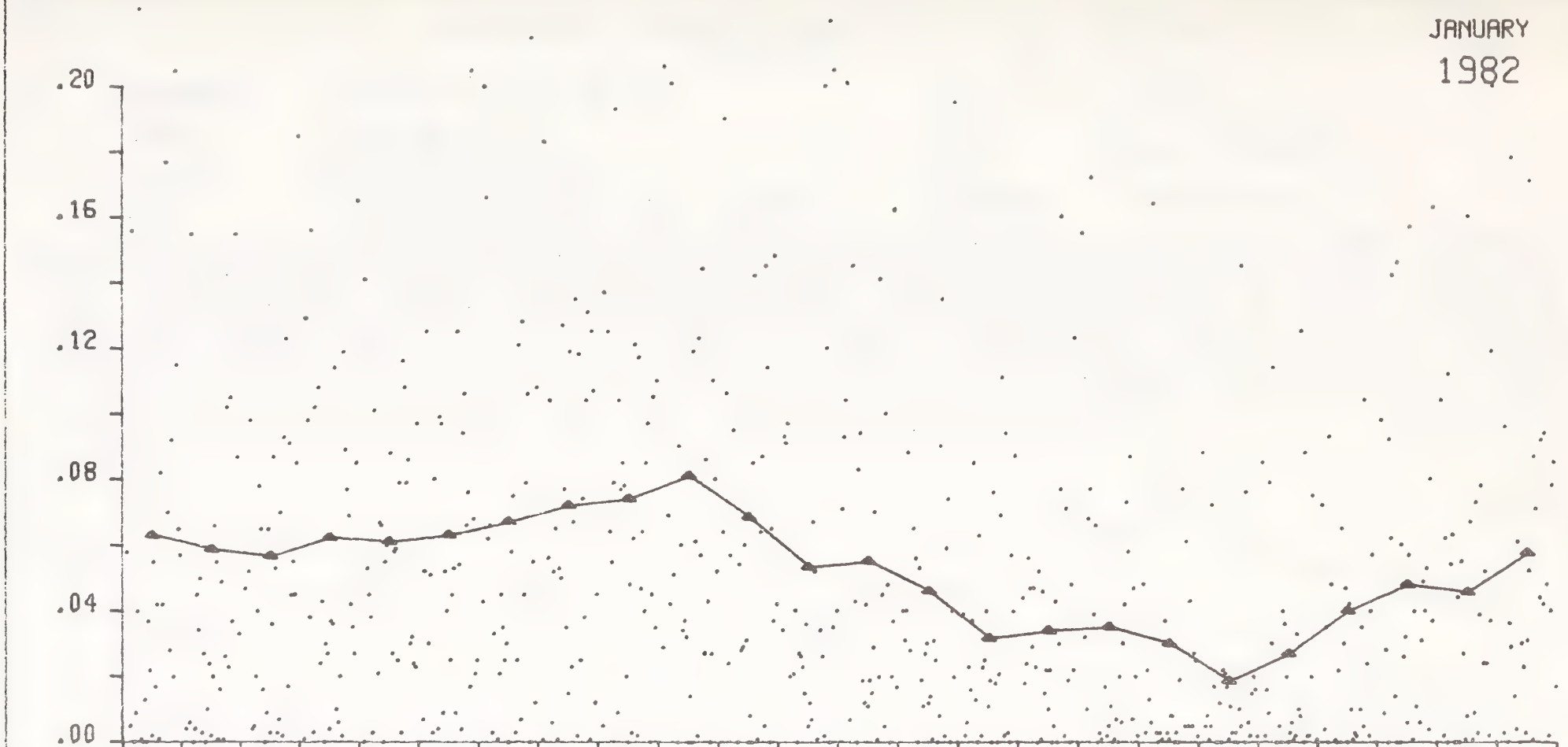
PARAMETER . . SULFUR DIOXIDE
AREA. . . . . 0080, YELLOWSTONE CO
SITE. . . . . 066, COBURN ROAD
CITY. . . . . BILLINGS

MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

Figure D-10



	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
NUM-OBS	30	31	31	31	30	30	31	31	31	31	29	29	30	31	31	31	30	29	31	30	29	30	31	30
1-HIGH	.259	.392	.260	.241	.254	.256	.250	.285	.284	.359	.304	.220	.201	.237	.111	.160	.172	.280	.145	.125	.409	.163	.200	.294
2-HIGH	.224	.290	.185	.165	.141	.205	.215	.183	.193	.357	.190	.205	.162	.195	.094	.123	.155	.164	.088	.114	.104	.157	.160	.178
HR.AVG	.063	.059	.057	.062	.061	.063	.067	.072	.074	.081	.068	.053	.055	.046	.032	.034	.035	.030	.019	.027	.040	.048	.046	.058

PLOT. . . . . CONCENTRATION VERSUS TIME (MON-SUN)
METHOD . . . . . PULSED FLUORESCENT
UNITS . . . . . PARTS PER MILLION
STANDARDS . . . (STATE) .50 PPM 1-HR AVG

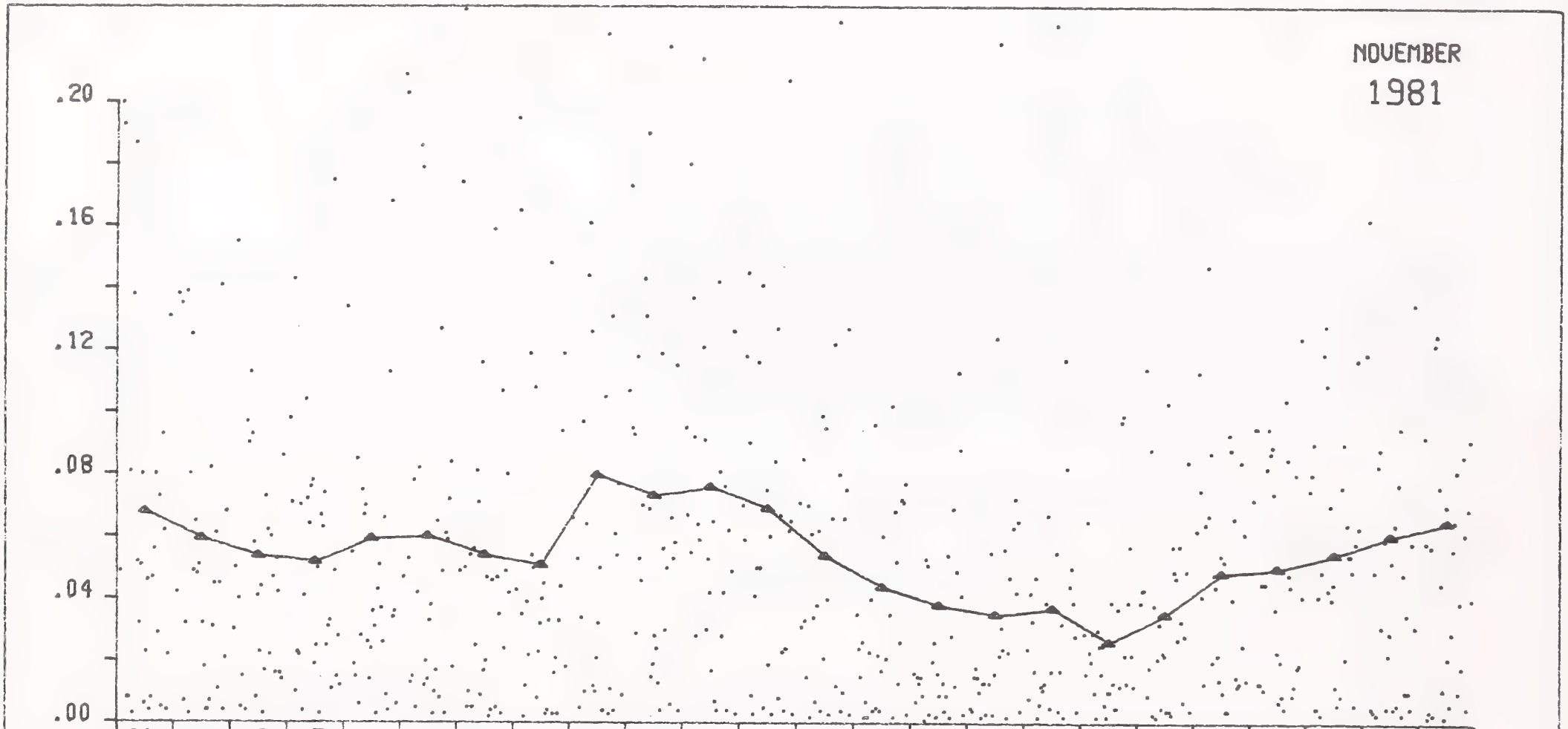
PARAMETER . . SULFUR DIOXIDE
AREA. . . . . 0080, YELLOWSTONE CO
SITE. . . . . 066, COBURN ROAD
CITY. . . . . BILLINGS

MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

Figure D-9



	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
NUM-OBS	30	30	30	30	30	30	30	30	30	30	30	29	29	29	29	28	29	30	30	30	30	30	30	30
1-HIGH	.265	.235	.235	.175	.255	.209	.230	.195	.305	.218	.245	.275	.226	.350	.365	.219	.225	.099	.114	.147	.124	.128	.283	.333
2-HIGH	.200	.141	.155	.143	.244	.203	.174	.165	.264	.190	.214	.207	.127	.102	.113	.124	.117	.097	.103	.113	.104	.119	.239	.265
HR.AVG	.068	.059	.054	.052	.059	.060	.054	.051	.080	.073	.076	.069	.054	.044	.038	.035	.037	.026	.035	.048	.050	.055	.060	.065

PLOT. . . . . CONCENTRATION VERSUS TIME (MON-SUN)
METHOD . . . . . PULSED FLUORESCENT
UNITS . . . . . PARTS PER MILLION
STANDARDS . . . (STATE) .50 PPM 1-HR AVG

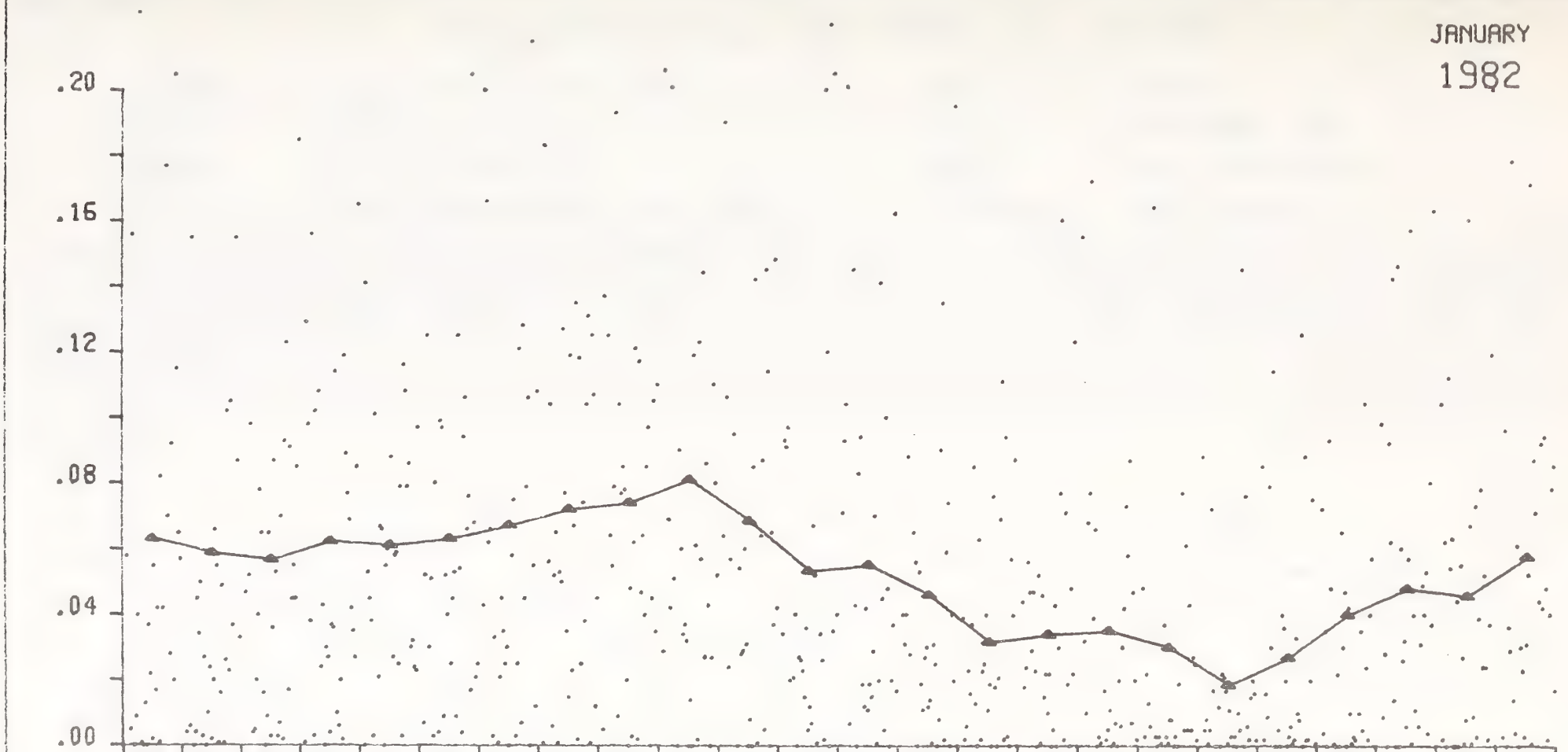
PARAMETER . . SULFUR DIOXIDE
AREA. . . . . 0080, YELLOWSTONE CO
SITE. . . . . 066, COBURN ROAD
CITY. . . . . BILLINGS

MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

Figure D-10



	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
NUM-OBS	30	31	31	31	30	30	31	31	31	31	29	29	30	31	31	31	30	29	31	30	29	30	31	30
1-HIGH	.259	.392	.260	.241	.254	.256	.250	.285	.284	.359	.304	.220	.201	.237	.111	.160	.172	.280	.145	.125	.409	.163	.200	.294
2-HIGH	.224	.290	.185	.165	.141	.205	.215	.183	.193	.357	.190	.205	.162	.195	.094	.123	.155	.164	.088	.114	.104	.157	.160	.178
HR.AVG	.063	.059	.057	.062	.061	.063	.067	.072	.074	.081	.068	.053	.055	.046	.032	.034	.035	.030	.019	.027	.040	.048	.046	.058

PLOT. . . . . CONCENTRATION VERSUS TIME (MON-SUN)
METHOD . . . . . PULSED FLUORESCENT
UNITS . . . . . PARTS PER MILLION
STANDARDS . . . (STATE) .50 PPM 1-HR AVG

PARAMETER . . SULFUR DIOXIDE
AREA. . . . . 0080, YELLOWSTONE CO
SITE. . . . . 066, COBURN ROAD
CITY. . . . . BILLINGS

MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

Figure D-11

MAY
1982

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
NUM-OBS	28	27	27	28	28	28	28	28	27	25	26	25	25	24	26	26	27	28	28	28	28	27	28	29
1-HIGH	.025	.022	.021	.032	.026	.210	.065	.105	.111	.115	.039	.010	.015	.013	.011	.008	.019	.032	.035	.032	.044	.026	.020	.019
2-HIGH	.023	.021	.021	.024	.025	.079	.042	.079	.046	.047	.031	.009	.009	.006	.006	.006	.004	.012	.011	.031	.010	.023	.018	.018
HR.AVG	.005	.006	.005	.008	.008	.021	.013	.016	.016	.013	.008	.003	.003	.002	.002	.002	.002	.003	.003	.004	.003	.004	.005	.005

PLOT. . . . . CONCENTRATION VERSUS TIME (MON-SUN)
METHOD . . . . . PULSED FLUORESCENT
UNITS . . . . . PARTS PER MILLION
STANDARDS . . . (STATE) .50 PPM 1-HR AVG

PARAMETER . . SULFUR DIOXIDE
AREA. . . . . 0080, YELLOWSTONE CO
SITE. . . . . 066, COBURN ROAD
CITY. . . . . BILLINGS

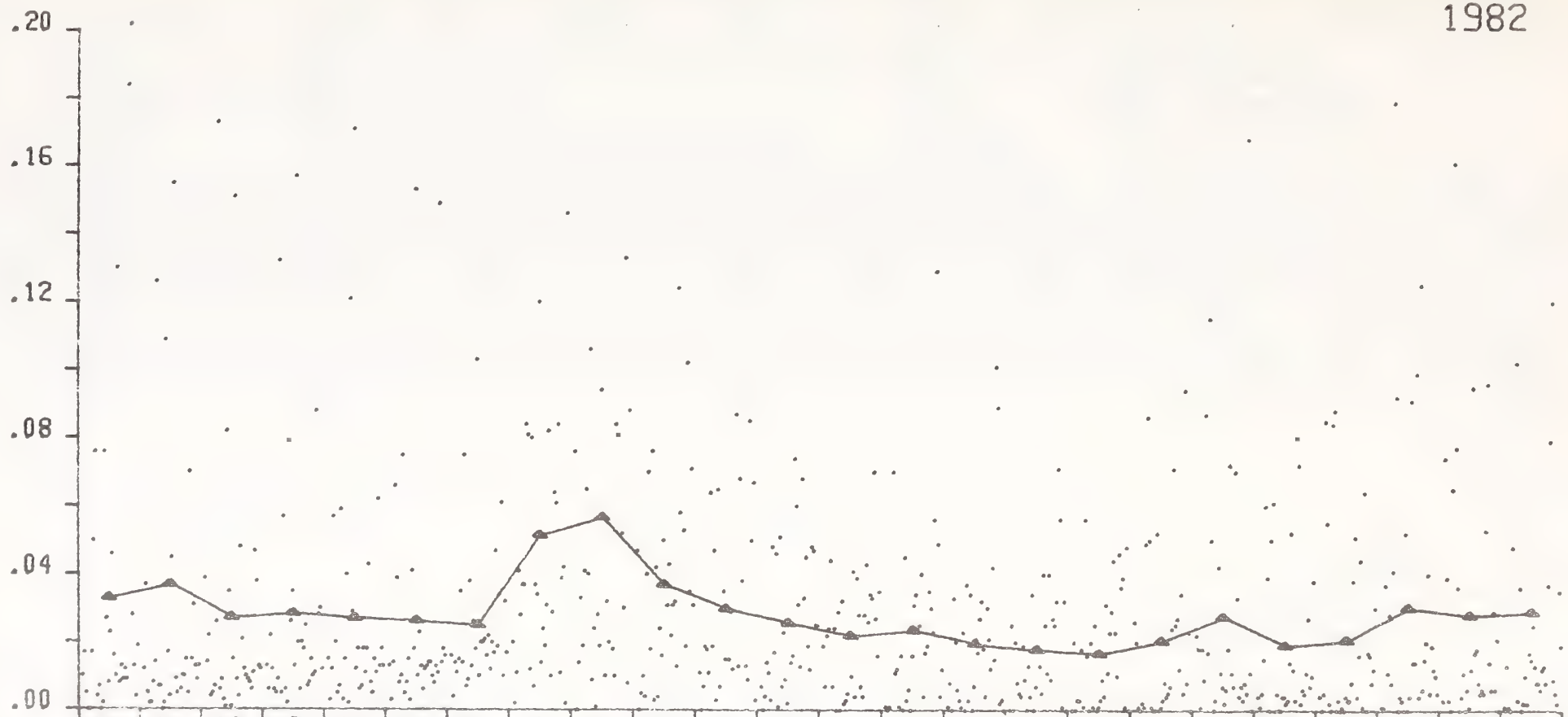
MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

Figure D-12

AUGUST
1982



	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
NUM-OBS	31	31	31	31	31	31	31	31	29	29	27	30	31	30	31	31	31	31	31	31	31	31	31	31
1-HIGH	.202	.385	.173	.157	.171	.153	.103	.307	.270	.124	.087	.074	.070	.129	.101	.071	.056	.094	.168	.080	.088	.179	.161	.253
2-HIGH	.184	.155	.151	.132	.121	.149	.075	.146	.243	.102	.085	.068	.044	.070	.089	.056	.048	.086	.115	.072	.085	.125	.096	.120
HR.AVG	.033	.037	.027	.028	.027	.026	.025	.051	.057	.037	.030	.026	.022	.024	.020	.018	.017	.021	.027	.019	.021	.030	.028	.029

PLOT. . . . . CONCENTRATION VERSUS TIME (MON-SUN)
METHOD . . . . . PULSED FLUORESCENT
UNITS . . . . . PARTS PER MILLION
STANDARDS . . . (STATE) .50 PPM 1-HR AVG

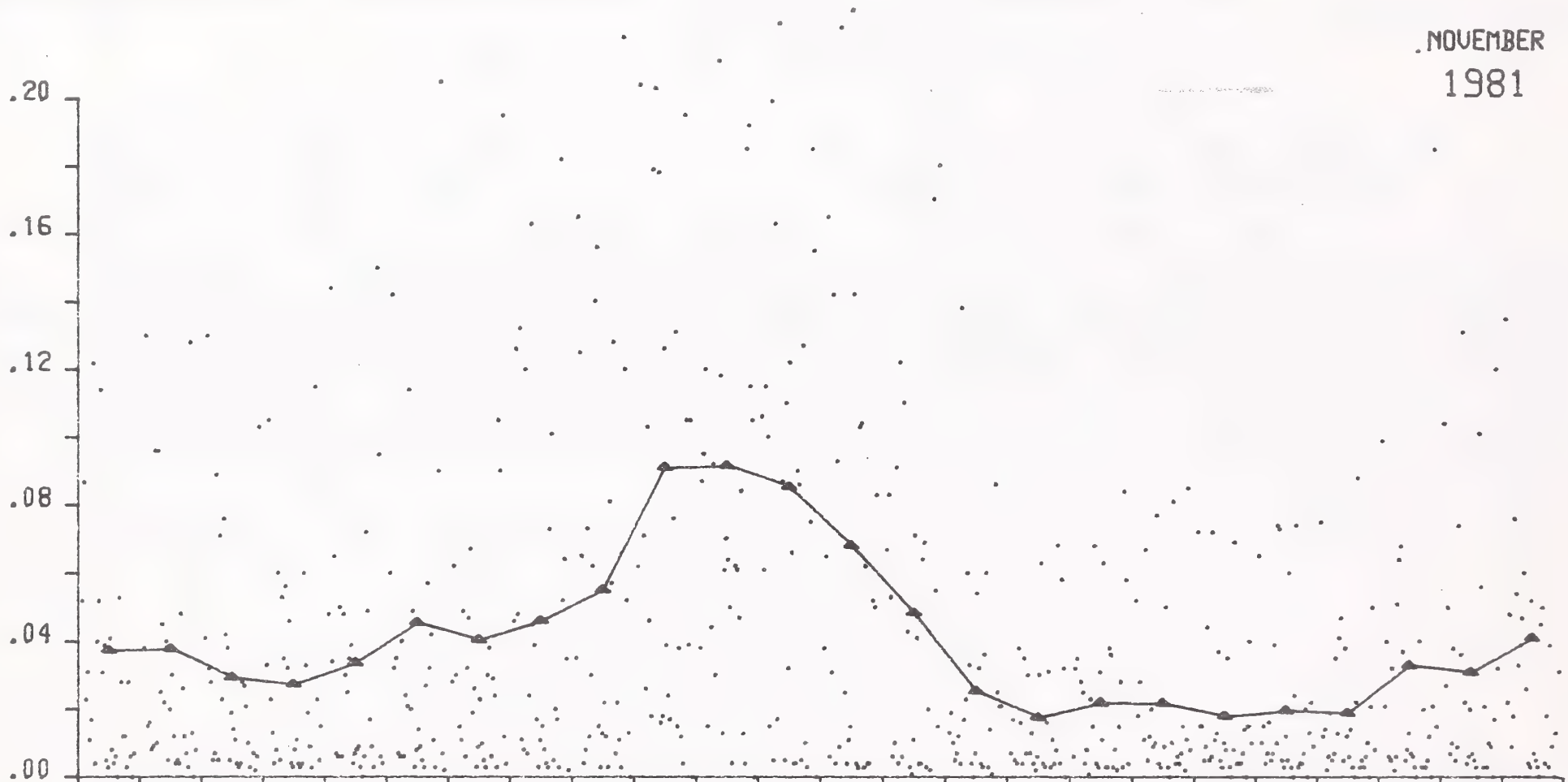
PARAMETER . . SULFUR DIOXIDE
AREA. . . . . 0080, YELLOWSTONE CO
SITE. . . . . 066, COBURN ROAD
CITY. . . . . BILLINGS

MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

Figure D-13



	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
NUM-OBS	30	30	29	29	29	30	30	30	30	29	29	29	28	27	28	30	29	29	30	30	30	30	30	30
1-HIGH	.290	.260	.130	.115	.150	.295	.235	.182	.218	.329	.417	.305	.238	.180	.138	.068	.084	.085	.072	.074	.088	.214	.131	.385
2-HIGH	.122	.130	.103	.105	.144	.205	.195	.163	.165	.260	.257	.222	.226	.170	.086	.063	.068	.081	.072	.074	.075	.185	.120	.135
HR.AVG	.038	.038	.029	.027	.034	.046	.041	.046	.055	.091	.092	.085	.068	.048	.025	.018	.022	.022	.018	.020	.019	.033	.031	.041

PLOT. . . . . CONCENTRATION VERSUS TIME (MON-SUN)
METHOD . . . . . PULSED FLUORESCENT
UNITS . . . . . PARTS PER MILLION
STANDARDS . . . (STATE) .50 PPM 1-HR AVG

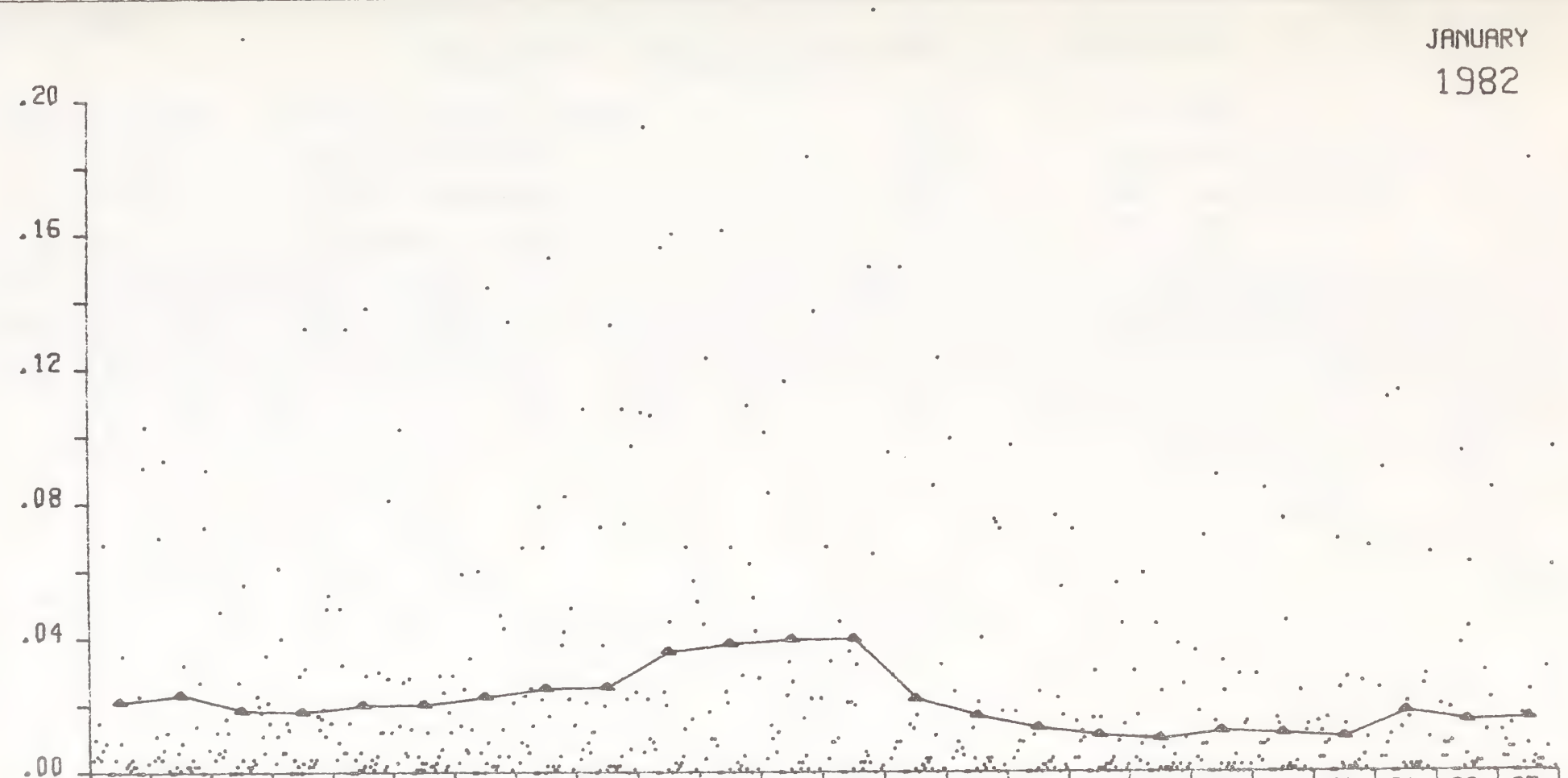
PARAMETER . . SULFUR DIOXIDE
AREA. . . . . 0080, YELLOWSTONE CO
SITE. . . . . 064, NORTH JOHNSON LANE
CITY. . . . . BILLINGS

MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

Figure D-14



	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
NUM-OBS	31	31	31	31	31	31	30	30	31	30	30	29	29	29	29	28	30	31	31	31	31	31	31	31
1-HIGH	.236	.244	.219	.132	.138	.273	.144	.153	.133	.192	.328	.326	.381	.150	.099	.097	.072	.059	.088	.084	.069	.113	.095	.182
2-HIGH	.103	.093	.056	.061	.132	.102	.134	.082	.108	.160	.161	.183	.227	.123	.075	.076	.056	.044	.070	.075	.067	.111	.084	.096
HR.AVG	.021	.023	.019	.018	.020	.020	.023	.025	.026	.036	.038	.040	.040	.022	.017	.013	.011	.010	.012	.011	.011	.018	.015	.016

PLOT. . . . . CONCENTRATION VERSUS TIME (MON-SUN)
METHOD . . . . . PULSED FLUORESCENT
UNITS . . . . . PARTS PER MILLION
STANDARDS . . . (STATE) .50 PPM 1-HR AVG

PARAMETER . . SULFUR DIOXIDE
AREA. . . . . 0080, YELLOWSTONE CO
SITE. . . . . 064, NORTH JOHNSON LANE
CITY. . . . . BILLINGS

MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

Figure D-15

MAY
1982

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
NUM-OBS	31	31	30	30	30	31	31	31	30	30	30	31	31	29	30	28	29	31	31	31	31	31	31	31
1-HIGH	.037	.063	.132	.059	.097	.051	.148	.220	.175	.189	.045	.070	.022	.030	.035	.129	.014	.013	.017	.008	.008	.016	.038	.023
2-HIGH	.018	.050	.056	.028	.035	.042	.132	.106	.175	.139	.044	.042	.020	.019	.020	.028	.004	.012	.011	.007	.003	.012	.022	.012
HR.AVG	.004	.006	.010	.007	.011	.011	.027	.026	.032	.020	.007	.006	.003	.003	.004	.008	.002	.002	.002	.002	.001	.002	.004	.003

PLOT. . . . . CONCENTRATION VERSUS TIME (MON-SUN)
METHOD . . . . . PULSED FLUORESCENT
UNITS . . . . . PARTS PER MILLION
STANDARDS . . . (STATE) .50 PPM 1-HR AVG

PARAMETER . . SULFUR DIOXIDE
AREA. . . . . 0080, YELLOWSTONE CO
SITE. . . . . 064, NORTH JOHNSON LANE
CITY. . . . . BILLINGS

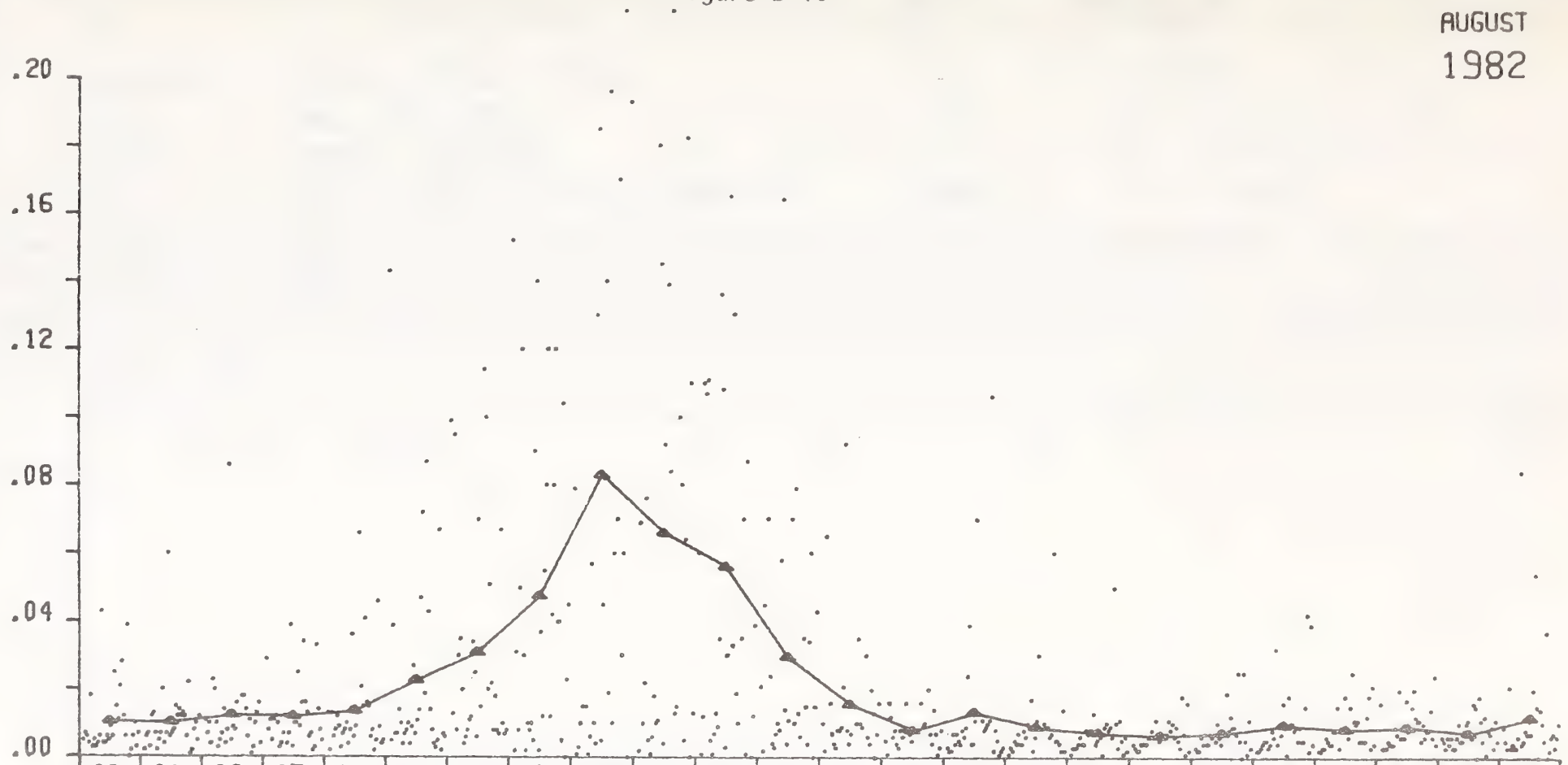
MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

Figure D-16

AUGUST
1982



	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
NUM-OBS	31	31	31	31	31	31	31	31	29	29	29	28	27	26	29	29	31	31	31	31	31	31	31	31
1-HIGH	.043	.060	.086	.039	.066	.143	.114	.152	.425	.234	.277	.164	.092	.020	.106	.060	.050	.018	.025	.042	.025	.024	.018	.084
2-HIGH	.039	.022	.023	.034	.046	.087	.100	.140	.250	.220	.165	.079	.065	.016	.070	.030	.013	.016	.025	.039	.021	.020	.016	.054
HR.AVG	.010	.010	.013	.012	.014	.023	.031	.048	.083	.066	.056	.030	.016	.008	.013	.009	.007	.006	.007	.010	.009	.009	.007	.012

PLOT. . . . . CONCENTRATION VERSUS TIME (MON-SUN)
METHOD . . . . . PULSED FLUORESCENT
UNITS . . . . . PARTS PER MILLION
STANDARDS . . . (STATE) .50 PPM 1-HR AVG

PARAMETER . . SULFUR DIOXIDE
AREA. . . . . 0080, YELLOWSTONE CO
SITE. . . . . 064, NORTH JOHNSON LANE
CITY. . . . . BILLINGS

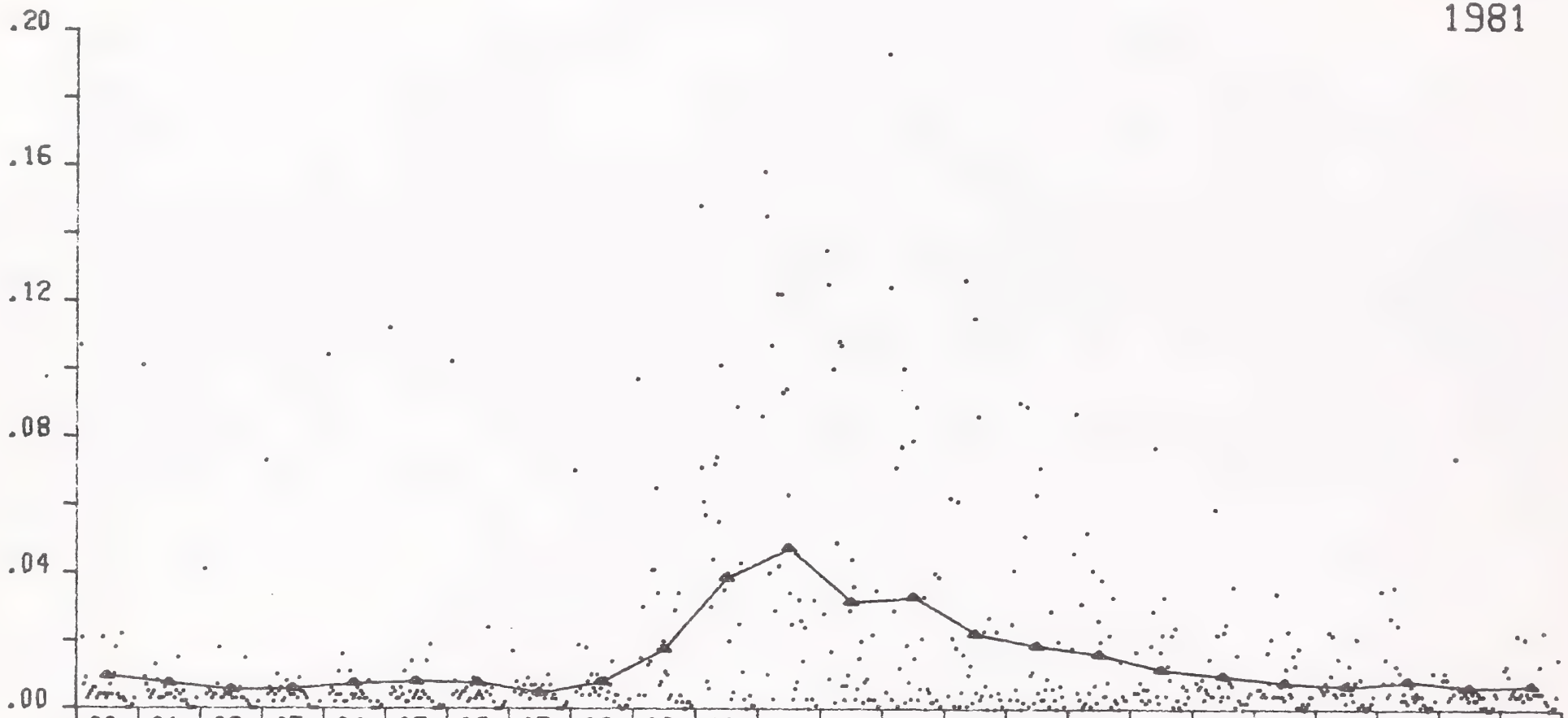
MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

Figure D-17

NOVEMBER
1981



	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
NUM-OBS	30	30	30	30	30	30	30	30	29	28	27	28	30	30	29	30	30	30	30	30	30	30	30	30
1-HIGH	.107	.101	.041	.073	.104	.112	.102	.017	.070	.097	.148	.158	.135	.193	.126	.090	.087	.077	.059	.034	.023	.036	.074	.023
2-HIGH	.022	.015	.018	.010	.016	.019	.024	.010	.019	.065	.101	.145	.125	.124	.115	.089	.052	.033	.036	.023	.022	.035	.011	.022
HR.AVG	.010	.008	.005	.006	.008	.008	.008	.005	.008	.018	.039	.047	.032	.033	.022	.019	.016	.012	.010	.008	.007	.008	.007	.007

PLOT. . . . . CONCENTRATION VERSUS TIME (MON-SUN)
METHOD . . . . . PULSED FLUORESCENT
UNITS . . . . . PARTS PER MILLION
STANDARDS . . . (STATE) .50 PPM 1-HR AVG

PARAMETER . . SULFUR DIOXIDE
AREA. . . . . 0840, YELLOWSTONE CO
SITE. . . . . 015, LAUREL BN
CITY. . . . . LAUREL

MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

Figure D-18

JANUARY
1982

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
NUM-OBS	27	27	27	27	26	26	26	26	26	26	26	26	26	26	26	25	26	27	25	25	26	26	26	26
1-HIGH	.055	.088	.082	.097	.101	.084	.103	.095	.067	.074	.063	.043	.056	.061	.108	.117	.121	.085	.088	.075	.097	.042	.099	.062
2-HIGH	.047	.063	.041	.076	.056	.078	.069	.063	.056	.056	.041	.041	.043	.051	.056	.035	.061	.069	.070	.046	.083	.039	.037	.056
HR.AVG	.017	.021	.016	.020	.022	.028	.022	.023	.021	.019	.019	.017	.016	.017	.017	.016	.016	.018	.020	.019	.019	.014	.017	.019

PLOT. . . . . CONCENTRATION VERSUS TIME (MON-SUN)
METHOD . . . . . PULSED FLUORESCENT
UNITS . . . . . PARTS PER MILLION
STANDARDS . . . (STATE) .50 PPM 1-HR AVG

PARAMETER . . SULFUR DIOXIDE
AREA. . . . . 0840, YELLOWSTONE CO
SITE. . . . . 015, LAUREL BN
CITY. . . . . LAUREL

MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

Figure D-19

MAY
1982

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
NUM-OBS	28	28	28	28	28	28	28	27	28	28	28	28	28	29	29	28	29	28	29	29	29	29	29	29
1-HIGH	.015	.012	.074	.047	.021	.034	.081	.083	.075	.100	.065	.016	.026	.014	.017	.015	.014	.029	.008	.005	.009	.012	.013	.009
2-HIGH	.009	.008	.005	.005	.004	.009	.054	.063	.056	.048	.036	.009	.019	.013	.013	.010	.010	.012	.007	.003	.006	.009	.010	.007
HR.AVG	.002	.002	.004	.003	.002	.003	.009	.012	.012	.011	.005	.002	.003	.002	.002	.002	.002	.003	.001	.001	.002	.002	.002	.002

PLOT. . . . . CONCENTRATION VERSUS TIME (MON-SUN)
METHOD . . . . . PULSED FLUORESCENT
UNITS . . . . . PARTS PER MILLION
STANDARDS . . . (STATE) .50 PPM 1-HR AVG

PARAMETER . . SULFUR DIOXIDE
AREA. . . . . 0840, YELLOWSTONE CO
SITE. . . . . 015, LAUREL BN
CITY. . . . . LAUREL

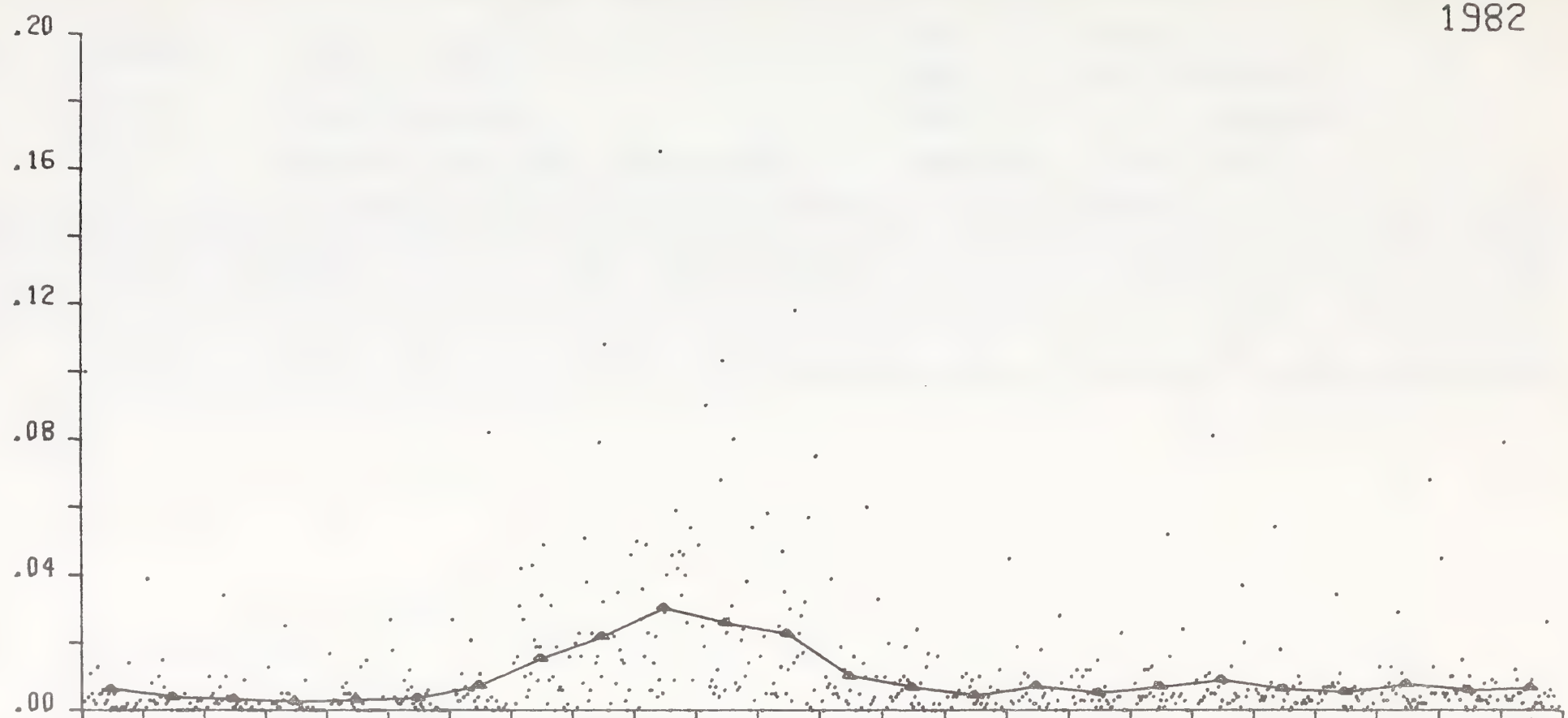
MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

Figure D-20

AUGUST
1982



	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
NUM-OBS	31	31	31	31	31	31	30	30	30	30	29	30	30	30	29	28	30	30	31	31	31	31	31	31
1-HIGH	.100	.039	.034	.025	.017	.027	.082	.049	.108	.165	.103	.118	.060	.024	.012	.045	.023	.052	.081	.054	.034	.068	.045	.079
2-HIGH	.014	.015	.010	.013	.015	.018	.027	.043	.079	.059	.090	.075	.039	.020	.011	.028	.015	.024	.037	.018	.011	.029	.015	.026
HR.AVG	.006	.004	.004	.003	.003	.004	.008	.016	.022	.030	.026	.023	.010	.007	.005	.007	.005	.007	.009	.006	.006	.008	.006	.007

PLOT. . . . . CONCENTRATION VERSUS TIME (MON-SUN)
METHOD . . . . . PULSED FLUORESCENT
UNITS . . . . . PARTS PER MILLION
STANDARDS . . . (STATE) .50 PPM 1-HR AVG

PARAMETER . . SULFUR DIOXIDE
AREA. . . . . 0840, YELLOWSTONE CO
SITE. . . . . 015, LAUREL BN
CITY. . . . . LAUREL

MONTANA STATE AIR QUALITY BUREAU

APRIL 1983

TECHNICAL SERVICES

SECTION E

Monthly Plots

vs

Nitrates, Sulfates

ug/m³

Figure E-1

1982

ARITH.AVG =.207

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	3	4	4	4	4	5	5	2	4	4	1	1
1-HIGH	.5	.3	.2	.4	.5	.5	.4	.3	.3	.3	.3	.1
2-HIGH	.2	.1	0	.3	.2	.4	.4	.2	.2	.3		
MO.AVG	.266	.125	.05	.225	.175	.3	.24	.25	.2	.25	.3	.1

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . .

PARAMETER . . NITRATES

AREA. . . . . 0480, FLATHEAD CO

SITE. . . . . 035, POLEBRIDGE

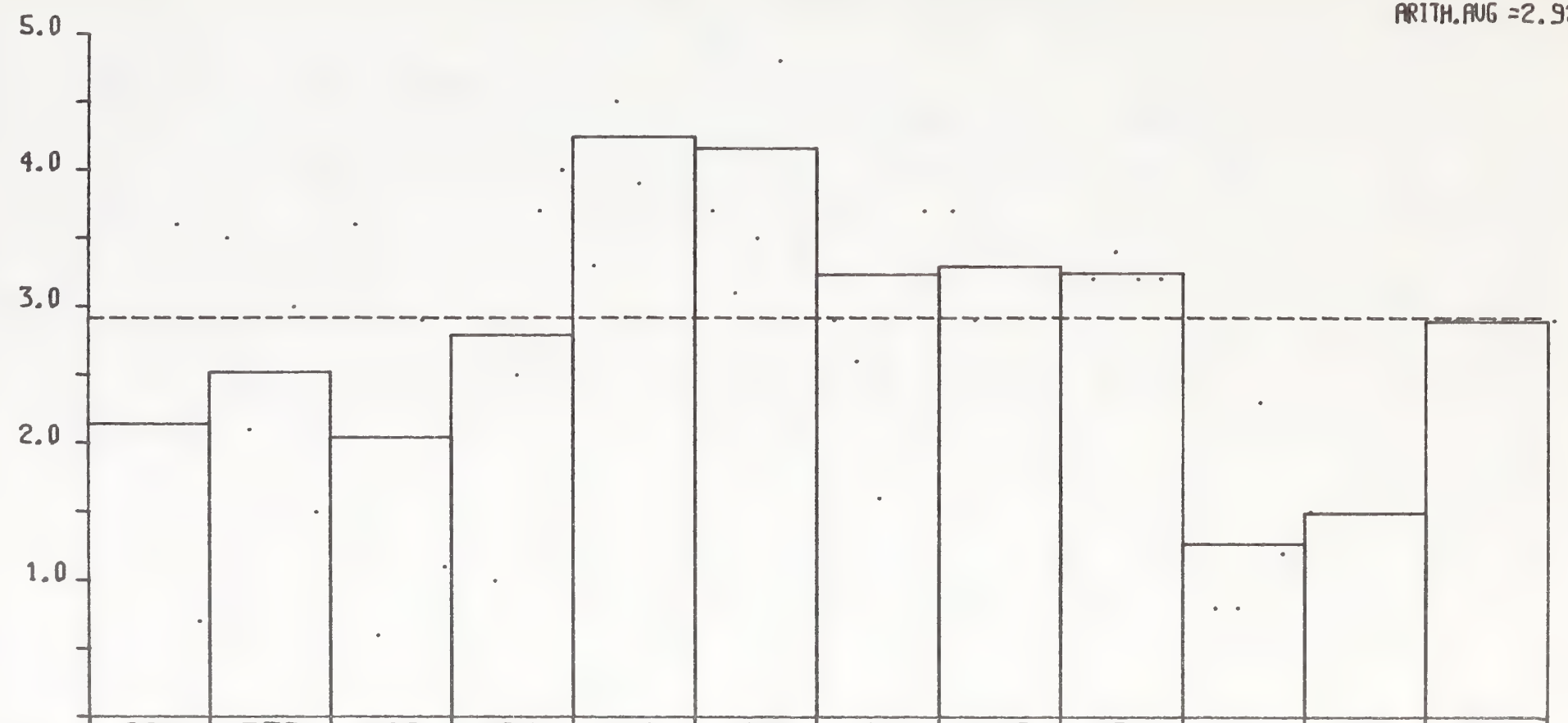
CITY. . . . . POLEBRIDGE

MONTANA STATE AIR QUALITY BUREAU

MAY 1983

TECHNICAL SERVICES

Figure E-2



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	2	4	4	4	4	5	5	2	4	4	1	1
1-HIGH	3.6	3.5	3.6	4	5.3	5.7	5.4	3.7	3.4	2.3	1.5	2.9
2-HIGH	.7	3	2.9	3.7	4.5	4.8	3.7	2.9	3.2	1.2		
MO.AVG	2.15	2.52	2.05	2.8	4.25	4.16	3.24	3.3	3.25	1.27	1.5	2.9

PLOT. . . . . CONCENTRATION VERSUS TIME
METHOD . . . . . HI VOL
UNITS . . . . . MICROGRAMS/CUBIC METER
STANDARDS . . .

PARAMETER . . SULFATES
AREA. . . . . 0480, FLATHEAD CO
SITE. . . . . 035, POLEBRIDGE
CITY. . . . . POLEBRIDGE

MONTANA STATE AIR QUALITY BUREAU

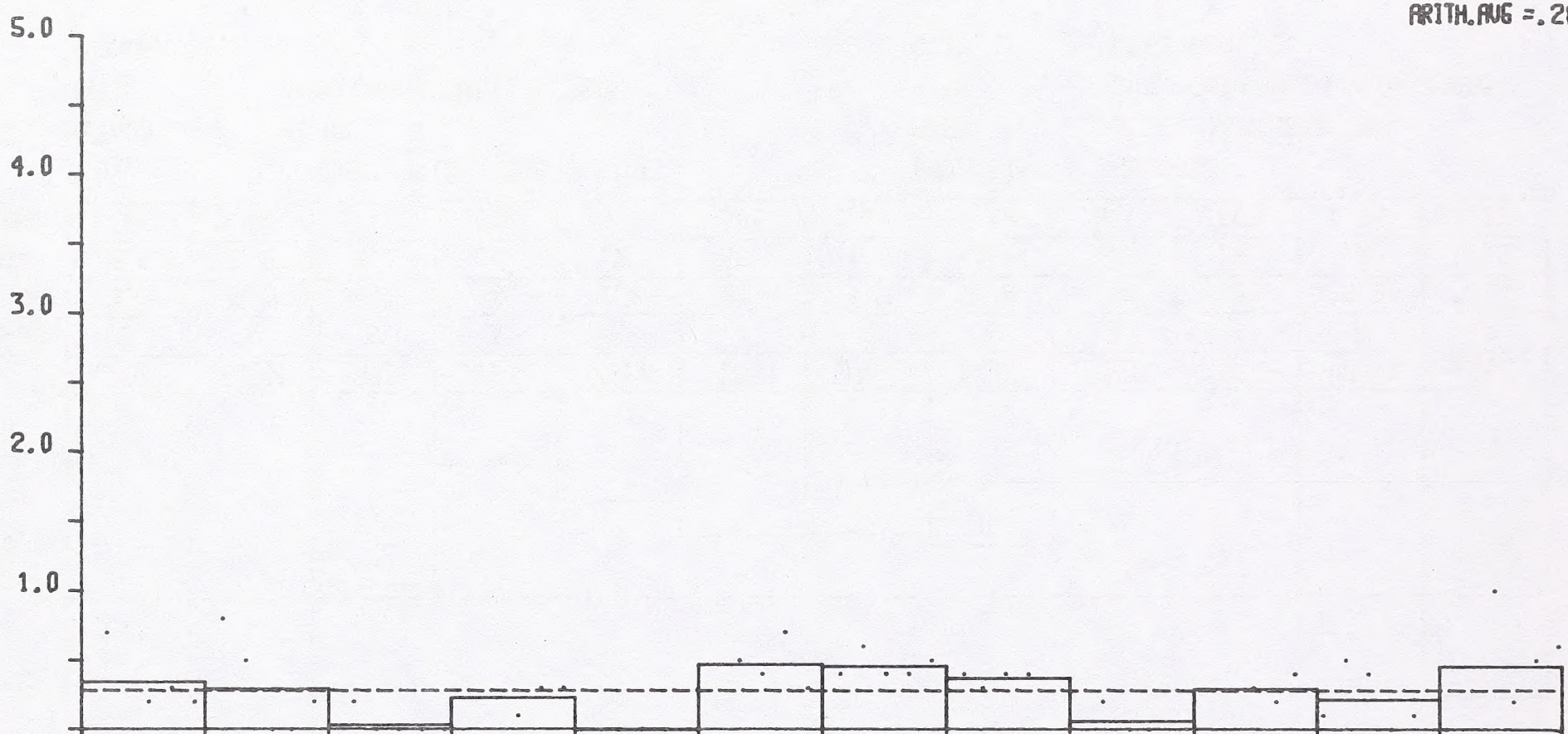
MAY 1983

TECHNICAL SERVICES

Figure E-3

1982

ARITH.AVG =.285



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	4	5	5	3	3	4	5	4	3	3	5	5
1-HIGH	.7	.8	.2	.3	0	.7	.6	.4	.2	.4	.5	1
2-HIGH	.3	.5	0	.3	0	.5	.5	.4	0	.3	.4	.6
NO.AVG	.35	.3	.04	.233		.475	.46	.375	.066	.3	.22	.46

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . .

PARAMETER . . NITRATES

AREA. . . . . 0570, FLATHEAD CO

SITE. . . . . 007, GNP-FIRE WEATHER STA

CITY. . . . . WEST GLACIER

MONTANA STATE AIR QUALITY BUREAU

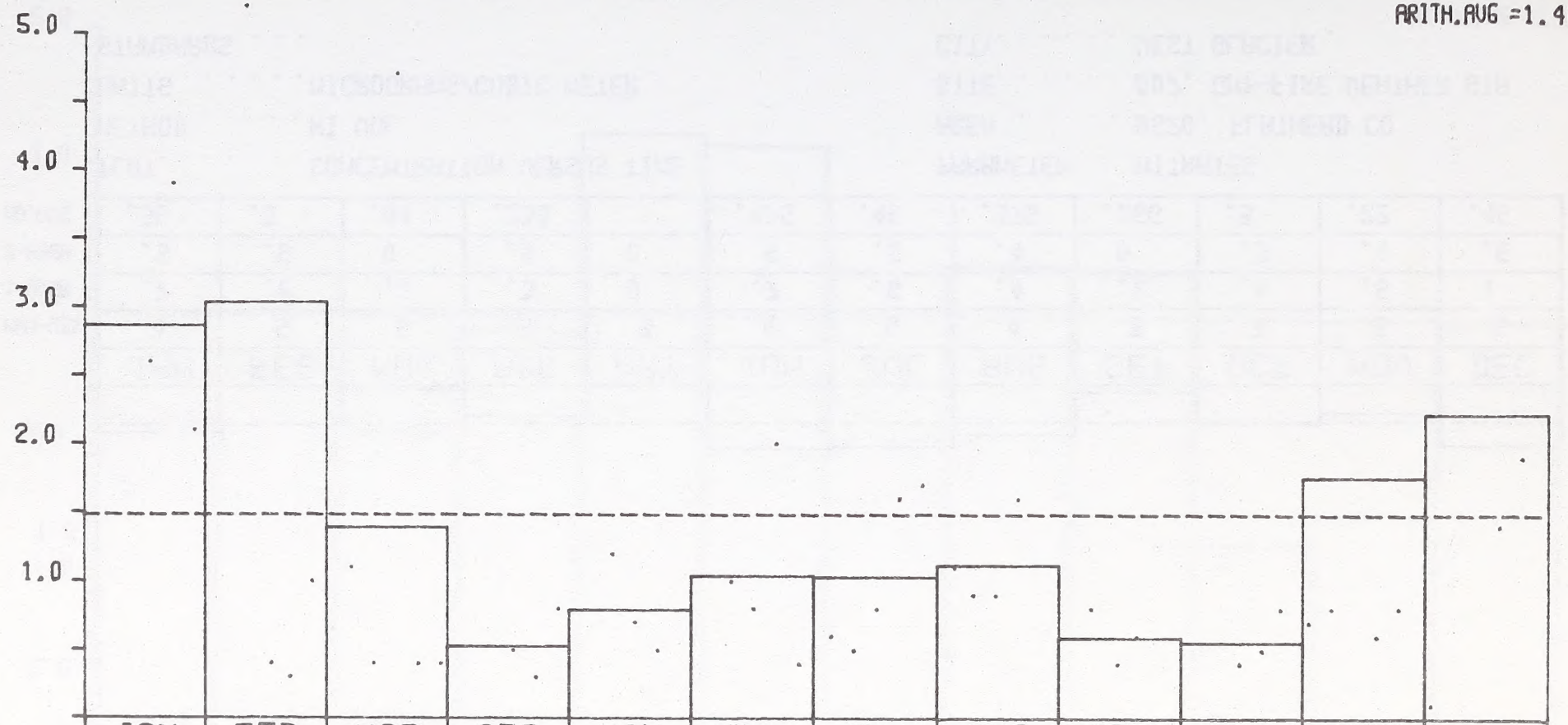
MAY 1983

TECHNICAL SERVICES

Figure E-4

1982

ARITH.AVG =1.48



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
NUM-OBS	3	5	5	3	3	4	5	4	3	3	5	4
1-HIGH	3.9	8.3	4.7	.8	1.2	2	1.7	1.6	.8	.8	5.9	5.5
2-HIGH	2.6	5.2	1.1	.5	.7	1	1.6	1.1	.6	.5	.8	1.9
NO.AVG	2.86	3.04	1.4	.533	.8	1.05	1.04	1.12	.6	.566	1.76	2.22

PLOT. . . . . CONCENTRATION VERSUS TIME

METHOD . . . . . HI VOL

UNITS . . . . . MICROGRAMS/CUBIC METER

STANDARDS . . .

PARAMETER . . SULFATES

AREA. . . . . 0570, FLATHEAD CO

SITE. . . . . 007, GNP-FIRE WEATHER STA

CITY. . . . . WEST GLACIER

MONTANA STATE AIR QUALITY BUREAU

MAY 1983

TECHNICAL SERVICES

150 copies of this public document were published at an estimated cost of $4.05 per copy, for a total cost of $608.05, which includes $533.05 for printing and $75.00 for distribution.